GOD, FOODS, EARTHWORMS AND YOUR HEALTH

God's provision to keep us in good health via Eating Right

Being

Text of the Second Senior Scholars' Lectures on the Agrarian Mission of Landmark University, Omu-Aran, Kwara State, Nigeria

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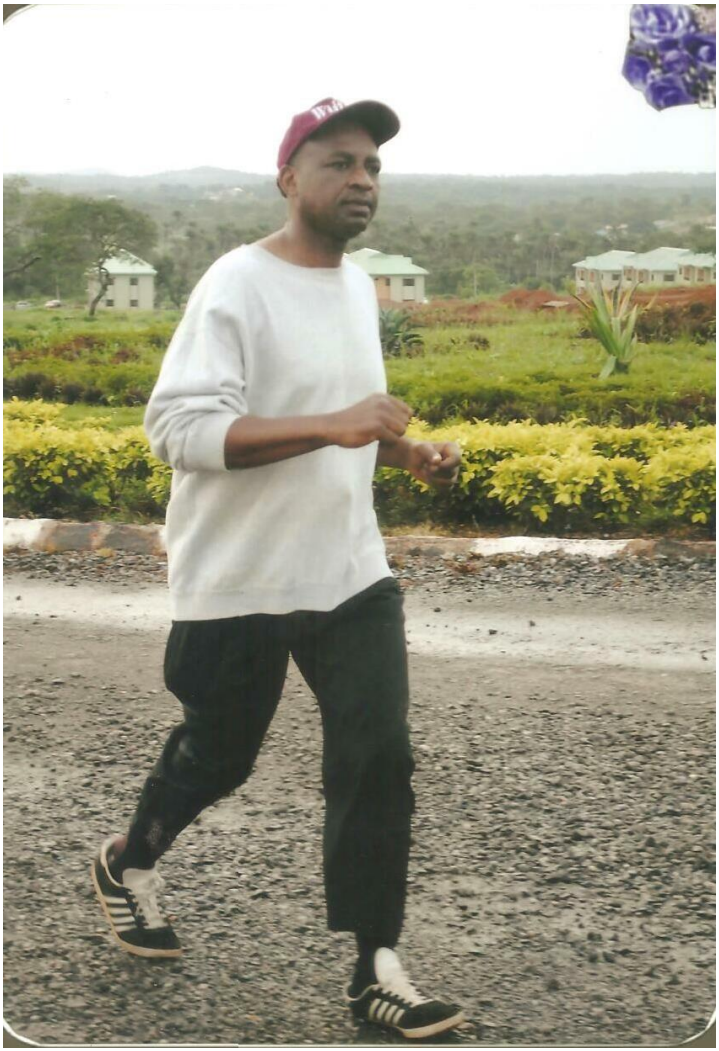


Figure 1: Foundation Vice-Chancellor, Prof. Matthew Ola-Rotimi Ajayi, showing how to lay foundation of good health by jogging. By jogging we aerate our organs and charge our muscles ready to devour foods, leaving little to clog any organ or store up as fat. It increases our basal metabolism, and therefore the rate of destroying strange molecules that could have caused us internal inflammations; that is how it reduces high blood pressure.

DEDICATED TO

Prof. Matthew Ola-Rotimi Ajayi

Foundation Vice-Chancellor, Landmark University, Omu-Aran
Kwara State, Nigeria

For:
*being an ***inspiring academic leader***, not a boss:
*always having an ***encouragement***
for me and my Department
*showing a good example by ***early morning jogging.***

1. INTRODUCTION

Landmark University was established in the year 2011 with an Agrarian Revolution Mandate. Agriculture involves more than just producing food; in it is planted what we need to also be healthy. Our foods provide more than just energy; they provide also nutrients to keep us in good health and tonus. The establishment of the Landmark University therefore is expected to improve the people's health. While via its Commercial Farms the University is expected to distribute food to the community, the University is especially expected to educate and motivate the people themselves to produce foods and use them to sustain themselves in good health and wealth.

This lecture focuses on how to make use of foods to sustain health and cure most diseases. The main thrust is that the Creator has made available all that we need to be healthy, in the plant and animals that are supposed to be foods unto us. Life is richer and cheaper when our health is based on healthy foods and lifestyle.

In this Lecture I propose that everybody is endowed to, and should take control of his health by eating right and adopting a healthy lifestyle, avoiding introducing strange molecules into our environment and foods, and avoiding converting our foods into strange forms that our body rejects, quarantines or isolates, the processes that are responsible for what we commonly call chronic diseases.

In our pursuit of the agrarian revolution, Landmark University will factor in ethical considerations concerning genetically

modified foods, introduction of agrochemicals and undue processing that transform foods into poisons. The University must educate the community on how to prepare and present the crops produced in order to achieve sustainable health and longevity.

One element in that bid is the function of the earthworms, the original soil engineers before the advent of modern machines. I propose that our farm machinery should not be hauled against them, but rather on their side, in order to achieve organic farming, reduce pests, increase soil mineralization and natural fertility, improved crop performance and nutrient quality.

This Lecture rounds up by providing the principles and testimonies of how food and the regular kitchen herbs have been used to cure diverse ailments.

Yes, everyone (perhaps assisted by his doctor) can take control of his or her health- by food, lifestyle and control of environmental toxins.

2. I TABLE MY CREDENTIALS

Ladies and gentlemen, let me start this Lecture by tabling my credentials. God in his infinite wisdom has pushed me around various academic disciplines: Chemistry, Zoology, Molecular Biology, Molecular Biology of Leukemia, Herpetology, Oligochaetology, Soil Fertility and Biology. While I thought I have settled down I carelessly broke my health by my food and lifestyle. That was what forced me into my current interest in food and health.

I have taught at undergraduate level, *intra alia*, Basic and Applied Zoology, Comparative Anatomy, Comparative Physiology, Form and Function in Animals; and at postgraduate level Biochemistry of Parasitism, Soil Biology and Ecology, and Biometry. These diverse exposures have enabled me to develop a rather holistic understanding of food and health issues.

As the Chaplain of Olabisi Onabanjo University, Ago-Iwoye, I was fortunate also to be a major member of the team that introduced and drew the curriculum for a BA degree option in Science and Religion for the their Department of Religious Studies.

You will find traces of all these experiences in this Lecture, especially my heart-felt view that the Great Designer God has put in place all that we need to live healthy lives. It is ignorance of this vital fact that has led to mismanagement of

our lifestyle and food, which in turn has led to all kinds of diseases. It is inadequate appreciation of this vital fact that has led to inordinate ambition to manufacture new chemicals to treat all ailments which ordinary foods could have treated safely. In consequence, America which keep data far better than Nigeria, reports that people die more from treatments of diseases than from the original diseases.
So pardon me as I will continue throughout this lecture to encourage you to take responsibility for your own health, by your food and lifestyle, assisted by your doctor.

3. AIMS AND OBJECTIVES OF MY PRESENTATION:

I intend in this presentation to show that God, having provided us all that pertain to life and godliness, has done His part; the Proprietors of Landmark University desire that all should enjoy communial and personal food security and good health; and our Faculty at the Department of Biological Sciences desire to translate these desire to reality at domestic level by conducting studies into how to use local foods, herbs, water and other local resources to sustain good health and cure common ailments. My own job as a naturopath is to explain by this lecture why and how everyone can manage his own health, assisted by his doctor.

In sincerely meaning "everyone" I must speak in the language every common man can understand. That includes my students, secondary school pupils and ordinary citizens who may not even have read ordinary level Biology, not to talk of Medicine. I therefore choose the strategy often observed in WHO training manuals where experts write in the simplest language to

communicate complex procedures to the lay users of such manuals. I choose to avoid technical term, but only to the extent that the meaning is not lost nor vague. If everyone must be his own doctor, all must understand clearly how the ordinary foods that we eat today develop into the complex diseases of tomorrow. I am particular about students and youths, who have a good taste for the "Sugar-Candy Mountains" and junks, ignoring that what they eat today determines what they become just twenty years away, at the time they should be eating the fruit of their student days' labor.

Some of the information provided here is bound to be rudely shocking to many, as they go exact opposite to what we have traditionally been taught. But a little patient reading and careful thought will show that they are reasonable after all. For example, when, here below, you read that the fastest way to shed fat is to eat fat, you may initially feel indignant and repulsive. But a little patient thought will make you agree that, in our villages, pigs fed on nearly all-cassava food are among the fattiest of our domestic animals. On the other hand, our Fulani neighbors who eat fat the most, and even saturated fat at that, are among the slimmest (**Glew et al. 2001**). I therefore urge that you avoid being like my friend, a Professor of Medicine, who told me he stopped reading my book titled ***Eat Right*** at the point he found it recommending eating of eggs and meat. Science is very humbling. Another example you will likely find unacceptable is that some of our most dreaded "diseases" are not diseases at all; evidence-based reports indicate that they are friends, invoked to help us fight some intruders in our body. So do not stop reading when you learn

that high cholesterol, hypertension and even cancer are not diseases; they are only the dog given a bad name in order to hang it.

Further, you are likely to be tempted to ask what qualifies me to write this script when I am not a Medical Doctor. My answer always is, "Does anyone have to be a doctor to know that a stale food is likely to produce abdominal pain?" If only we know that there are some not readily visible metal contaminants (eg, lead or mercury) or aflatoxin in our food, whose effects are as bad as stale food, we will keep our distance from some foods. Do mothers need to know any medicine before serving *ogi* (porridge) to the sick? Do diseases and death spare doctors? Don't animals in the wild, who don't have doctors, take care of their health by carefully selecting just the right foods? What qualifies me to write this information is that I probably find them a little earlier than you did, though you too have access to them via journals articles and the internet. Therefore, take your time to verify whatever seems strange to you in this Lecture.

4. HOW I DABBLED INTO HEALTH CARE ISSUES

In March 2010 I arrived my hometown Egbe and was received with delicious red ripe pawpaw that I gleefully gulped down. The pleasure was momentary- for the next few days I slept so little that I thought it wise to go for a comprehensive medical check, more so that I was fast approaching age 60. After all the physical, chemical, microscopic, and electronic examinations, the doctor personally led me back to the Medical Laboratory for a re-check of my sugar level. He was so scared he

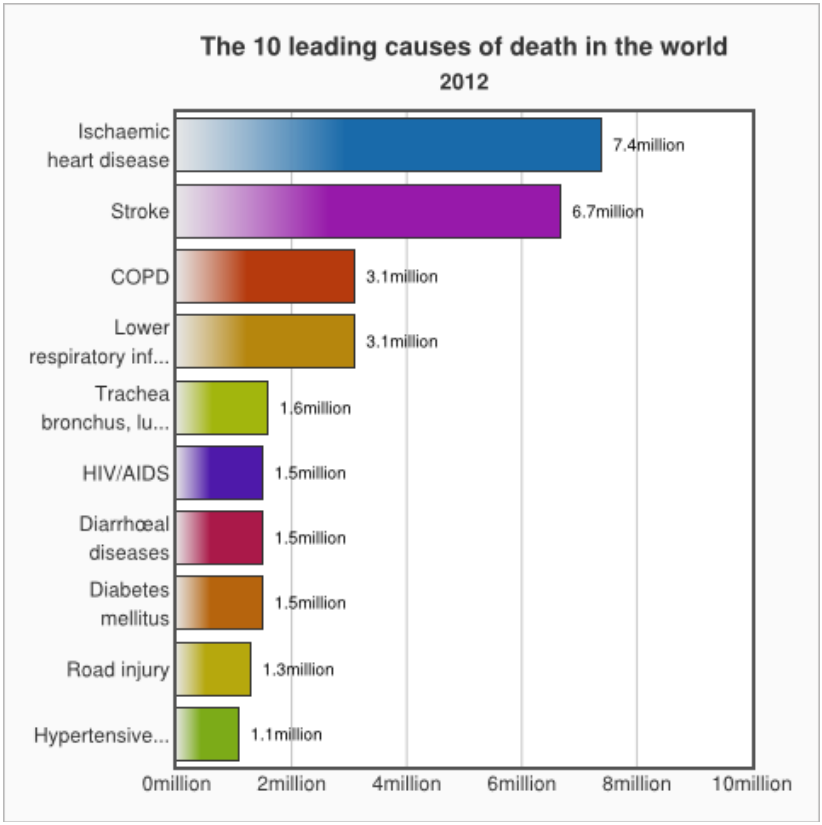
announced, “Prof, I will admit you immediately and place you on insulin!”

My stubborn rejection of that prescription was what forced me into reading how else to get out of diabetes and hypertension. In that flight for my life I discovered that our body has been made to take care of itself if we provide the right environment. That is the thrust of my lecture today.

Figure 1: Delicious red ripe pawpaw. Alas, this could keep the blood sugar of a diabetic high for days, nearly two weeks, in some cases.

5. W.H.O. STATISTICS OF THE COMMON KILLER DISEASES

How widespread are human diseases? And how many of them are associated with wrong foods and lifestyle? What factors are common to the killer diseases? Can we do anything to escape them? The answers to some of these vexing questions will be understood below in this Lecture. According to the WHO, 2014 Statistics, Ischaemic Heart Disease is the single largest cause of death worldwide (Finegold et al. 2013), responsible for 12.7% of total global morbidity. Stroke is the second largest cause of death in the world, responsible for 9% of all deaths; however, 30% of stroke incidents occurs as a result of a transient ischaemic attack (Ingall, 2004; Fischer , 2008). The third most important killer disease is Chronic Obstructive Pulmonary Disease,. And the forth is Lower Respiratory Infections disease. Others are shown in Figure 1.



igure 2: WHO Statistics of the Top Ten Killer Diseases in the World

It is interesting to note how many of these diseases are associated with, or initiated by some form of inflammations. It is also noteworthy how many of such inflammations are due to materials ingested, over a very long time.

6. WHY YOU MUST BE RESPONSIBLE FOR YOUR OWN HEALTH, ASSISTED BY YOUR DOCTOR

It is largely true that everyone is the cause of his ill health. Since many of the diseases listed in Figure 1 are related to inflammations, food and other environmental intakes over a long period of time, it suggests that we can exercise some control over them. Here are a few errors we commit:

a. We frequently choose the wrong lifestyle, for example, dreaming of, and living in fool's paradise. We imagine a utopia, a dream world that avoids the bright midday sunlight, doing little trekking, controlling our gadgets by remote control, calling our secretaries by bell instead of going physically to meet her at her desk, etc.

Figure 3: You feel boss-like when your secretary comes to your office; you are healthier when you walk to her office.

b. We eat the wrong food.

c. We fail to overrule our wrong genetic dispositions. For

example, by the provisions around us, sickle cell patients should ordinarily not have crisis. Similarly, with the provisions available, it is not always accurate to claim that you are hypertensive because hypertension runs in your family. It is often truer that wrong foods and lifestyles run in a family, leading to a disease running in the family.

d. We often fail to avail ourselves remedies against inescapable environmental exposures. For example, failing to consume antioxidants to negate the effect of xenobiotics and environmental pollutants.

Figure 4: Garden eggs and apples- good sources of antioxidants.“An apple a day keeps the doctor away”

Those failures and errors need not exist because man was created to work a garden, not to sleep on a bed of roses. He was to eat a diversity of fruits. He was to have no genetic defect, as demonstrated by the early genetic generation that lived close to 1,000 years. His food contained all that was needed to make him live without medication. Now, let us look at what preparations God put in place to avoid humans being ill.

7. GOD MADE ANTENATAL PREPARATIONS FOR HUMANS BUT "?FORGOT" TO CREATE MEDICATIONS"

Before the arrival of humans on the planet earth, God who was pregnant with beautiful and complex design, made their home, food and environment ready. Concerning food provision Genesis 1:29, 30 says:

> "Then God said, "*I give you every seed-bearing plant on the face of the whole earth and every tree that has fruit with seed in it. They will be yours for food. And to all the beasts of the earth and all the birds of the air and all the creatures that move on the ground-everything that has the breath of life in it-I give every green plant for food." And it was so."*

Did you notice that God "forgot" to create medications when he created human? He also "forgot" to create medicine for the animals that He earlier created. Or was he deliberate in not creating medicines? Very likely, he did not have to provide for medications because, in His original plan, medicines would not be necessary! Mosquitoes were originally made to suck nectar, not human blood; thus, malarial and other parasitic diseases were not to exist. Lions and tigers were meant to eat grass like cow, not to harm anybody. How do we know all these? We know that when Jesus comes to give us the Demonstration Kingdom, commonly called the Millennium Reign:

> *"The wolf shall dwell with the lamb, and the leopard shall lie down with the kid, and the calf and the lion and the fatling together, and a little child shall lead*

them." Isaiah 11:6

There won't be poison in foods and environment, not even in snakes. Isaiah 11:8,9 declares that during that Millennial Reign:

> *"The infant will play near the hole of the cobra, and the young child put his hand into the viper's nest. They will neither harm nor destroy on all my holy mountains, for the earth will be full of the knowledge of the Lord as the waters cover the sea."*

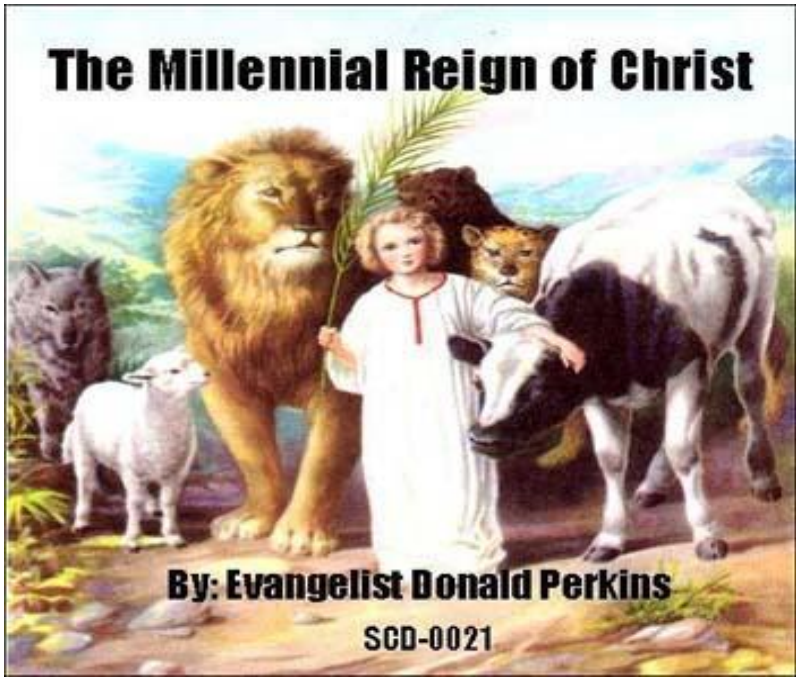


Figure 5: During Jesus' exciting Millennial Reign, Nature will be returned to harmony.

We can see, then, why God did not need to create medications. Fortunately for us, the things He created are largely still there till today to sustain our health. But if they do, why does our health break down?

8. BREAKING THESE THREE RULES BREAK US

God is the Intelligence that designed our body, its topography and anatomy, biochemistry, physiology, form and function. We must take Him serious when he gives directives for its use. The Holy Bible is the User Manual for our body and life. Let us then next look at three User's Instructions that God gave us, which we frequently break.

a. **Rule 1: Eat Diversity of Plants:** Eat *"**every** seed-bearing plant"* and *"**every** tree that has fruit with seed in it"*. I imagine that the first phrase refers to herbs and the second to non-herbs. The word **"every"** refers to wide diversity. We break this rule by **eating only a few plants.** My questionnaire survey revealed that my own people of Egbe (Kogi State, ein the Middle Belt of Nigeria) feed largely on just about 15 crops for their staple diet (in contrast to thousands of plants around them).

b. **Rule 2: Eat Animal-Source Foods.** God specifically commanded Noah to include an animal-sourc diet. Noah's record was probably the first of a protracted sedentary life (one year in the wooden box, commonly called Noah's Ark). In Genesis 9:3 God amended the Genesis 1:29 Instruction (which prescribed vegetarian diet) as follows:

> *Every moving thing that lives shall be food for you; and **as I gave you** the green plants, I give you everything*. (Revised Standard Version)

Everything that lives and moves will be your food. I gave you green plants as food; ***I NOW give you*** *everything else*. (God's Word Version)

Figure 6: Animal-source foods are necessary for our health

Note that Noah's sedentary life in the Ark must have put excessive stress on him. He must address it by adding animal source foods. Where did Noah get the animal-source foods from? Of course, from the aquatic animals (fish and others) that survived the flood, and later from the terrestrial animals that multiplied from those that survived in the Ark. We are back there, sourcing krill oil and many other nutrients, not only from animals, but also from the

oceans and seas.

Many have rejected that instruction and returned to vegetarianism. In consequence, it is believed that strict vegetarianism is responsible for much of mental cases in the form of depression in the US today. (Dong and Scott 1982).

c. **Rule 3: Toil, Exercise and Sweat:**

God, trying to remedy man's fall, directed in Genesis 3:19: *"By the sweat of your brow you will eat your food".* To this instruction we have become intelligent by half: we reject hard labor and exposure to the sunlight; we rather seek an air-conditioned life. That rebellious rejection is euphemistically called "sedentary lifestyle".

Figure 7: Executive sedentary life often produces executive diseases. Minimize it.

Let us next consider the common faults with our foods.

9. THE COMMON FAULTS WITH OUR FOODS:

We eat in order to access energy, minerals and vitamins. Alas, much of our minerals are largely rain-washed from the continents into oceans. Our meals are expected to include protein, carbohydrate, lipid, minerals, vitamins and water. While our body can derive energy from either of protein, carbohydrate and lipid, it normally uses the three for different purposes. Carbohydrates serve as our primary energy sources. Proteins provide the amino acids by which we build new tissues and repair existing ones. Lipids provide the fatty acids that wrap every new cell that we produce.

The common errors with our meals include the following categories:

a. **Error of limited diversity**.

We tend to restrict our meals largely to only a few crops. In consequence, we fail to derive all the nutrients that we need from our foods. As an escape, we go for "food supplements", which are less than ideal, but are sometimes beneficial. Evidence-based research indicates that many so-called supplements are useless in effect, and some are even unhealthy. It is preferable to eat a wide diversity of crops.

b. **Error of introducing new molecules, bonds and functional groups into our foods.**

Our body has a set of enzymes to handle a wide (yet finite) range of molecules and bonds. When we eat a new

molecule, bond, or functional group, our body treats it as a stranger and intruder, against which our immune system declares a war. How? By isolating the intruder and mobilizing the immune system (ie, the body's defense system) against it. That is the cause of the tiny and sometimes large inflammations (swellings) that we experience. Yet, we frequently introduce such strange foods by over-processing and even genetically modifying our foods. Little wonder then that the body of a modern day human is daily embattled with inflammations. This has resulted in hypertension and other cardiovascular inflammations and diseases. (Dayrit and Conrado, 2006)

c. **Food Preparation Errors.**

Some foods that we should eat raw, we cook. Some we should do minimal cooking we overcook. It is now known that cooking most carbohydrate and proteins at temperature over 100-120 ^{o}C frequently produce acrylamide, a genotoxic carcinogen (U.S. FDA, (2006).) which is the same carcinogen that makes smoking of cigarette dangerous. Our crops come with their set of enzymes which get denatured at a high temperature. (A research project, called ***Heat-Generated Food Toxicants (HEATOX)***, was commissioned to study what toxic changes take place when we heat, especially overheat, our foods) We therefore benefit more if we do minimal cooking of our foods. There is a growing recommendation that at least 33% of our foods must be taken raw *Ogi*, for example,

Figure 2: Burnt foods are sources of acrylamide

is best taken raw or mixed with boiled water out of fire. That way, the natural enzymes and useful bacteria in the *ogi* become available as probiotics to bless our health.

e. **Error of low nutrient contents in our food**:

Often, our diet lacks, or has very low contents of some minerals. We must remember that many low atomic number atoms (light metals) and a few heavy metals are involved in the chemical reactions that build our cells and ultimately life.. (Stocker 2007) For example, iron (Fe) is involved with picking oxygen at our respiratory surfaces and dropping it at our metabolic sites; zinc (Zn) helps over 200 of our enzymes; sodium (Na), potassium (K), calcium

(Ca) and magnesium (Mg) make our heart and blood vessels work. When they are lacking in our diet we may have hypertension. ***It is currently regarded inadequate for doctors to prescribe abstinence from table salt as a treatment for hypertension, when in fact, such abstinence worsen the health status***. It is becoming clearer that it is not intake of salt, but rather the lack of other nutrients that ought to come with salt (like those minerals mentioned in this paragraph), that is responsible for what appear to be salt causing hypertension. It is therefore preferred to replace the popular refined table salt with the **seawater**, **little processed**, table salt.

"57 clinical studies on the effects of salt on cardiovascular disease show that cutting back on salt the way doctors are badgering you to do... ...will only shave one measly point off your blood pressure — and does nothing to protect you from a heart attack or stroke. ..,On the contrary, three separate studies . . . show that restricting salt can actually increase the risk of death in many people by a whopping 500%!" Heilbron (2010)

Figure 9: Table salt. The more popular refined type is bad, the less common sea water unrefined salt is excellent for our health. What a serious blunder when salt is proscribed for a hypertensive.

The two commonest errors with refined salt include: (a)The anti-caking agents added, some of which produce heavy metal toxicity and kidney problems. (b) The preservative commonly added, sodium acetate, that may increase blood pressure and kidney disturbances.

The unrefined seawater salts has the following advantages that we lose when a hypertensive is discouraged from taking salt: (a) It balances blood sugar; (b) Keeps bone strong; (c) Regulates metabolism (d) Boosts immune system (e) Provides about 80 trace elements in available form

Similarly, ordinarily, no one is expected to suffer scurvy due to shortage of vitamin C which is readily available in fresh juicy fruits and milk, or suffer deficiency of vitamins A or E which are readily available in our oils, especially

Shea butter (National Research Council. 2006). But imagine how sad it is that many people suffer one or more diseases by simply not getting enough sunlight, which is both abundantly available and free. Simple daily exposure to sunlight provides vitamin D (Holick 2004). to strengthen our bones, and therefore our heart; sunlight improves our nitric oxide production (Mackenzie et al, 2008) which in turn improves our blood pressure. Exposure to sunlight also improves our sleep by improving our melatonin production. But alas, we are misled into thinking that midday sunlight is not good.

Let us now take a closer look at what is wrong when we introduce strange molecules into our body.

10. WHAT OUR BODY DOES WHEN FACED WITH STRANGE MOLECULES

When our body is faced with a strange molecule, either in our food or water, or inhaled in the air, our immune system promptly isolates it, ie:

a. The intruder molecule is properly identified;

b. Blood flow to the location is initially reduced in order to properly isolate the intruder molecule; then blood flow is increased in order to supply the fighter white blood cells which destroy the strange molecule; the increased blood flow also provides other nutrients to repair and replace damages done by the intruder molecule and to initiate healing and return to normalcy.

c. The swelling (inflammation) that we observe is due to the increased blood flow to the location. We observe this if

it is near the surface.

d. What if our food is causing inflammation located deep in our body, for example, inside our arteries? In that particular case the inflammation narrows down the bore (internal diameter) of the arteries, which tends to reduce blood flow; our ever faithful heart works harder to keep the blood flowing. That extra pressure exerted by the heart is called hypertension, or high blood pressure. In other words, some cause of hypertension may be removed or reduced if we are able to identify and eliminate the inflammatory molecules in our foods, water, air, environment. (Alas, instead of doing that, we pursue how to reduce cholesterol in our blood, whereas cholesterol is commonly produced to help fight our inflammations.) (Boyce, 2008)

e. The pain we feel at the points of inflammations (swellings) is because the pressure of the blood and liquids that arrive the location is telling on the nerves there; the nerves alert us of some battle going on, some fluid accumulating, and some strange metabolic waste products being produced due to the ongoing battle against the strange molecules.

f. The heat we feel at the site of an inflammation is due to intense activities going on, both to handle the intruder molecule and to repair damages.

g. When our regular ordinary immune system cannot deal sufficiently with the intruding molecule, cancer cells are drafted in to assist. It has been scientifically shown that because of our careless or inevitable ingestion of wrong molecules cancer cells arise everyday in everyone and recede as soon as the incursion is overcome (Moritz, 2008).

The problem comes when we continually ingest the culprit, leading to sustained presence of the friend cancer cells. Alas, rather than analyze our foods, water, environment or lifestyle for what invokes cancer, we pull out all war arsenals against our friend cancer. Since Adam and Eve, humans have not stopped bulk-passing, blaming another person or object for our failures.

h. Cancer cells are so faithful that when the incursion moves to another location or get distributed to different locations, cancer cells follow in its heels. That pursuit is usually termed metastasis. Unfortunately, we fight the cancer cells to a standstill, while the incursant ends up taking lives. This is one reason against the "treatment of cancer" with chemotherapy and radiotherapy. Those methods in themselves are actually well known to be carcinogenic because they are ionizing radiations that generate free radicals by snatching electrons from our molecules. They are so bad that they weaken the hair follicles, causing the hair of treated patient to drop. In any case success rate with chemotherapy and radiotherapy is only about 2% (ie, about 98% failure).

i. It is noteworthy here that any food different from natural will be treated as an incursant, including those in cartons in the cupboard of most people. They do their inflammation-inducing work slowly, gently, steadily but very surely. To drive this message right home to your room, check if yourself, your roommate, or colleague is developing pimples on his or her face, or he/she is usually eating sweets and chewy gum, or he/she is getting bloated in sizes with thick facial skin. Very probably, inflammatory

processes have been initiated in him or her.(Atkins 2002) People are likely to say, “He or she is growing more comfortable”, but in reality he or she is beginning to take his or her share of human woes.

Subjecting ourselves to perpetual inflammations and excesses of sugar is what leads to “chronic diseases” (Hodges, and Rebello, 1983). The development of those “minor” processes and observations into full scale “disease” takes as long as 20 years (Cleave 1978). By that time we may not associate the long history of wrong foods with overweight, obesity, diabetes, hypertension, heart disease, etc. It is sad that:

a. The disease consequences show up about the time we should be enjoying the fruits of our youthful life labors (age above 40 years). Were you aware that the ophthalmologists think it is normal to start wearing medicated glasses about age 40? Sorry, that too is due most commonly to excessive glucose that glycates (bind together) the fibrous molecule in our eyes. Before glycation those protein molecules are transparent to light. When glycated they become translucent, thus leading to fogged vision (commonly called cataract). Worse eye diseases (glaucoma and retinopathy) can even result from more damages to the eye by excessive sugar (Atkins 2002).

b. When diseases manifest, many mischievous Christians attribute them to a witch or a generation curse. Of course, it is a generation curse for parents to eat wrong foods and pass same to their children and grandchildren.

If we understand that food (and other ingested materials) could be behind many of our illnesses, how much control can we exert? What if your primary "customer" (the farmer or factory producer of your food) is the one loading you with the poisons? Here next is a very important factor to consider: What if farming activities have introduced inflammatory factor into the foods that are available to us?

11. AGRICULTURAL PRACTICES THAT INCREASE OUR INFLAMMATION EXPERIENCES

In our effort to feed the ever-increasing population of the world we must mechanize our agricultural operations. Some aspects of that bid leads to production of molecules that are strangers to our immune system. For example, as happy and healthy "village boys" we used to enjoy "*lulu*" (cotton seed pasta) in vegetable preparations. That was an excellent source of omega 3 polyunsaturated oil. My 2010 research on the staple foods of Egbe people show that less than 1% of the population today knows what "*lulu*" is. Many young people in Egbe may not have even seen cotton plant on the field, nor ever held the seeds. But the cotton wool is used to make our clothes. And because the seed is an excellent source of that powerful oil, the cotton growing farmers in the Western World have almost "over-mechanized" its processing, thereby raising a major concern. Here is how.

The procedure for agricultural mechanization is similar for many crops that are popularly consumed, including maize (corn), wheat and soybeans, among many others. Let us

Figure 10: Glyphosate, the powerful herbicide, alas, also source of great concern to human health. "Studies suggests that glyphosate may actually be *the most important factor* in the development of a wide variety of chronic diseases."

summarize the concern about the mechanization efforts:

a. Usually when a crop is in high demand (high consumption) a breed or variety of it is genetically modified to insert a gene that confers resistance against the popular herbicides (commonly, resistance to the herbicide called glyphosate), so that when that herbicide is applied to the farm, weeds die off or even fail to grow; only that crop survives.

b. The farm is treated with the herbicide to prevent growth of competing weeds.

c. The growing crop is treated with an insecticide to

prevent damages by insects.

d. Other agrochemicals are applied to harmonize the ripening of the fruit and seed, so that instead of going over the farm several times to harvest, all fruits and seeds mature at the same time for all harvesting to be done at one time.

e. Then a defoliator chemical (a contact herbicide) is applied to kill and drop off all the leaves so that machine can be used to harvest the crop all at one time.

f. The fruit pod is separated from the hard seed.

g. And the seed is treated with yet another insecticide to protect it from storage insects.

Note that the agrochemicals applied at any of these stages ultimately reach animals and human consumers of the crop via the food web. And since they are not natural products, they constitute strange molecules (ie, xenobiotics) against which inflammatory reactions (no matter how little) is made. The effect is accumulation of harmful biomolecules which develops into crisis/disease either soon, a few years later or many years later (Merrington et al. 1984; Lionetto et al. 2010)

We may ask why worry about Glyphosate that makes farming so easy? Here is why.

a. It worsens damages initiated by other toxic chemicals found in foods, inhaled in air, or ingested in water

b. In itself, it disrupts normal body functions and induces disease.

c. It inhibits enzymes that catalyze the oxidation of organic substances. Normally, whenever a strange molecule comes into our body, for which we lack

natural enzymes to deal with it, oxygen is forced into the strange molecule (ie, burn it, like oxygen in the air burns our iron roofing sheets to turn it brown). The group of enzymes that do this oxidation are called cytochrome P450 (commonly abbreviated as CYP). They are largely located in our liver. That is why food digested and absorbed in our intestine usually reports first at the liver for checking. Any unusual /strange molecule in it is first oxidized, and passed from there to the kidney to be excreted. Alas, Glyphosate prevents this crucial detoxification, thereby allowing strange molecules to flow to all parts of the body. The effect is systemic inflammation (inflammation all over the body) which, because it is internal, may not show on the surface.

d. Inhibition of cytochrome leads to disruption of the biosynthesis of aromatic amino acids by gut bacteria, and impairment in serum sulfate transport.

e. Until recently it was thought that glyphosate cannot harm humans because the shikimate pathway is absent in all animals. However, today, it is known that this pathway is present in both human and in the bacterial that live in the gut of mammals. (The Shikimate pathway is a series of reactions by which the essential aromatic amino acids, called phenylalanine, tyrosine, and tryptophan, are synthesized.) These three amino acids dictate our having good sleep, good mood, sharp mental ability, motivation. One of them gives us our black skin that defends us against damages from sunlight. Imagine what happens when their production

is blocked by the weed killer glyphosate. We are probably robbing Peter to pay Paul.

f. Glyphosate damages the balance of the microbes that live inside us. Some of those that should produce some vitamins for us are wiped off. The first stage of oxidation of strange molecules normally takes place in our large intestine, preceding that which takes place in the liver. Glyphosate prevents even this process too. The presence of those strange molecules in our food leads to leaky gut. (Leaky gut is when the space between the cells of our intestinal wall, that is usually tight, instead becomes porous, thereby allowing undigested large molecules and strange ones, to readily pass through, and enter our body.) Remember strange molecules evoke inflammations. The results? Gastrointestinal disorders, obesity, diabetes, heart disease, depression, autism, infertility, cancer and Alzheimer's disease.

g. Please, note that the large number of people complaining about abdominal pains may suggest that Glyphosate has found it way into many of our foods. Change your food to those organically produced.

For these and other reasons the four great foods soybean, maize, wheat and sugar are regarded as the “killers of Americans”:. It is known that while America is the most industrialized country, alas, it is the sickliest of the industrialized world (Mercola 2013; The New York Times Jan 9, 2013). I wonder where most developing and under-

developed countries place on such ranking: little industrialized, sickliest?

In addition to all above, there are still other aspects of our foods that jeopardize our health., for example, the modernness of our foods..

12. WHAT ASPECTS OF OUR MODERN FOODS PUT US INTO HEALTH CHALLENGES?

Even processing of the seeds/fruits into instant meals often results into production of strange bonds and functional groups for which we lack enzymes to handle them. Here are a few examples.

a. We sometime hydrogenate or transform our natural oils to satisfy physical preferences. (Willet *et al.* 1993) In the process we produce an unnatural bond somewhere. A common example is the easy transformation of omega-3 oil to omega-6 oil. Omega-3 oil is an excellent oil with double bonds at three locations. When heated at high temperature (at over 100 ^{o}C) during frying of our foods, eggs, etc, it gets hydrogenated into a more saturated omega-6 oil which has double bonds at two locations. While a little omega-6 oil is good for us, the large amount that may be produced by frying at very high temperature for a long time produces inflammation. It may be the reason why some people develop abdominal pain after eating a large quantity of *egusi* (melon) which is rich in omega-6 oil, or after eating fried foods (egg, fried plantain, fried yam, etc). (Please, note that egusi on other counts

is excellent for our health.) Note also that many vegetable oils are rich in omega-3 component, which is an advantage. That quality is lost during high temperature pressing of the oil from the seed or when used for frying at high temperature. That is why you are often advised to buy cold-press oils.

b. Take again this common kitchen processing. When we heat our carbohydrates foods above 100 ^{o}C, especially above 120 ^{o}C, a significant percentage gets converted to acrylamide, which is known to be inflammatory and carcinogenic. It is this product that makes cigarette so carcinogenic to smokers, while sparing those who snuff tobacco. This is an important warning to those who enjoy the brown burnt back of bread, roasted yam and plantain, potato chips, burnt beans, burnt rice, etc. Incidentally, the acrylamide is less produced with roasted animal-source foods. (If you must fry those foods, use oils that are not rich in omega-3. Coconut oil or palm kernel oil are good alternatives)

c. We may ask what is wrong with modern fast foods such as instant nodules, spaghetti, biscuits, etc? All such processed foods are suspect and are best avoided.

13. WHAT ABOUT PHARMACEUTICALS?

a. Pharmaceuticals are no exceptions: because they are unnatural products, most of them are suspects. (Pagel and Parnes, 2001). Perhaps the commonest drug is

Figure 11: Junk foods: instant, effort- and time-saving, but alas, also health threatening.

aspirin. Studies over and over show that while it is commonly used to prevent blood clotting, and therefore to escape ischemic stroke, it damages the kidneys.

b. Consider this second example, statins used to reduce cholesterol level in the blood. Two quick blunders can be identified with use of statins:

   a. Production of cholesterol is now known to be the body's response to some provocative inflammation. The root cause is to be identified and addressed. It is wrong to direct efforts against cholesterol. It is known that our efforts to reduce cholesterol levels by pharmaceuticals have led to

increase in the prevalence of mental diseases, depression, hormonal dysbalance, etc. (Lewington et al. 2007) Our dominant hormones, testosterone and estrogen, are produced from cholesterol. Reducing the level of cholesterol leads not only to low levels of these hormones, but also to a dysbalance of the hormonal system. It also affects the transmission of nervous impulses as cholesterol is a component of the myelin sheath that wraps (insulates) our "electrical cables" (the axons) that conduct electricity from one cell to another in our body. ***(Note that since it is now firmly documented that 75% of those who die of heart disease or stroke have normal, or even low, level of cholesterol, it cannot be cholesterol that causes those diseases and deaths.)*. Note the following quote:**

> "To further reinforce the importance of cholesterol, I want to remind you of the work of Dr. Stephanie Seneff, who works with the Weston A. Price Foundation. One of her theories is that cholesterol combines with sulfur to form cholesterol sulfate, and that this cholesterol sulfate helps thin your blood by serving as a reservoir for the electron donations you receive when walking barefoot on the earth (also called grounding). She believes that, via this blood-thinning mechanism, cholesterol sulfate may provide natural protection against heart disease. In fact, she goes so far as to hypothesize that heart

> disease is likely the result of cholesterol deficiency - which of course is the complete opposite of the conventional view." (Mercola 2011)

b. Statins damage the liver, a terrible side effect, as the liver is too central to human health to be tinkered with.

c. Imagine also the damages done by a doctor who rushes his diabetic patients into insulin injection. Diabetes is one of the simplest diseases to treat. It largely involves cutting down on carbohydrate intake to the minimum, training the body into using oil and fat as source of energy, thereby controlling the outpouring of insulin into the bloodstream, providing vitamins and micronutrients. When these are done the body will naturally heal itself. It is known that giving insulin injection usually graduates the patient into more serious complications, most of which are avoidable, especially with Type 2 diabetes. (Rang and Dale, 1991)

d. Remember that, as with America, there may be more deaths from treatments than from diseases. God has made our body to naturally recover from diseases, if we provide the right conditions.

14. WHAT ABOUT HERBALS AND FOOD SUPPLEMENTS?

a. It is necessary to distinguish herbals and food supplements from pharmaceuticals. Pharmaceutical

involve synthesizing new bonds and functional groups that do not exist in nature, and for which we may not possess the regular enzymes to handle them. In contrast, food supplements are extracted from our usual foods so that we can improve the levels (concentrations) of those products in our body. Herbs are not necessarily extracted; they are commonly whole products that release desirable components into us when we consume them. Common herbs that are excellent for our health, but which we very frequently ignorantly downplayed include ginger, garlic, thyme and curry. Do you believe that an increased daily intake

Figure 12: Ginger and garlic. Cheap herbs for good health.

of these herbs (about 1 teaspoonful daily) should keep cancer away!. They are too cheap for our doctors to prescribe them in our hospitals, yet they work as much as the thousand-naira drugs. Prescribe them for yourself.

b. Yes, herbals and food supplements too can have side effects. But most time their side effect is due to negative "drug interaction", ie, if you are already taking a pharmaceutical, in a few cases, the extra level of a product supplied by a herb can interfere with the activity of the pharmaceutical. Many times, if you are educated enough about the nature of your sickness and the mode of action of the pharmaceutical that you are taking you can manage to drop the pharmaceutical and continue your natural cure via herbs and supplements.

15. PROMPT YOUR DOCTOR TO PRESCRIBE FOOD!

a. Perhaps with the level of readily available information on the net and in learned publications, and the level of criticism against pharmaceuticals, one expects every physician to update himself about the possibility of treating most (if not all) human ailments by prescribing suitable foods. By their training the doctors still remain in the best position to diagnose diseases and prescribe treatments. We cannot do without them, nor must we downplay their role in healthcare delivery. Yet, we and they must understudy how animals take care of their health naturally, without pharmaceuticals.

b. It is recommended that the first on the doctor's prescription list for most diseases should be foods. In emergency cases pharmaceuticals may be necessary to start out the treatment. Because of the calculatedly high concentration of pharmaceuticals, they work faster than foods and herbs, making them the better options in an emergency. However, as early as possible during the course of treatment the pharmaceuticals may be gradually withdrawn where food alternatives are available.

c. I will recommend that you refuse to forgive your doctor if all he/she prescribes for you are pharmaceuticals. Remember that, no matter how good, a pharmaceutical is a strange molecule in the body and will have some side effects. We all can duress our doctors into learning food therapy by always asking them, "What food must I take in order to avoid or minimize taking these drugs?" When you pay a follow-up visit to your doctor ask him again what food combination you should go on as part of your treatment.

d. Of course, you too have your direct access to the information on the net. Find out. If your doctor is ignorant of possible food alternative, tell him what you have read. He will likely be attracted to comply with you. However, it still remains unwise to do self-medication, at least, not until your disease is properly diagnosed. Ask your doctor to tell you the name of your ailment. Then take time to read about it and about the options for natural treatment.

e. Perhaps, it is good that the country should declare a period of Re-Training on Diet and Nutrition for doctors, both in the private and public hospitals. Those who fail to attend such training workshop after 5 years should have their Certificates of Practice withdrawn.

a. It may even be better to train our new doctors through the current medical training program,

b. Then make them do a further training (perhaps a diploma/certificate) under a Registered Naturopath, not under conventional and conservative professors.

16. CAN ALL DISEASES BE TREATED BY FOOD AND HERBS?

a. I am strongly tempted to say a quick YES. But I am a little slow about it, while taking my time to think out one or some diseases that cannot be treated by food and herbs.

b. Yes, I can think of some: accidents and emergency situations. Or can even those cases be treated by herbals if we anticipate that they will occur and get our herbals ready? Or else start out with pharmaceuticals and gradually discontinue pharmaceutical while continuing on herbals?

c. There are rich records that many of the terrible human diseases have been treated by food and herbs. These include even cancer at advanced stages. Once the provocation is withdrawn cancer recedes, naturally.

d. I am sure you would want to know if Ebola Viral

Disease is treatable by diet and herbs. I am very positive that, under a knowledgeable and bold doctor and supporting staff, the treatment should be very simple, cheap and effective. After all our great grandmothers treated some cases of "*sonpona*" when it was ravaging. And there are much better information and facilities today than then.

17. THE EPIDEMICS OF EXCESSIVE CARBOHYDRATE CONSUMPTION IN NIGERIA TODAY

a. The common killer diseases in Nigeria today are the chronic types; "chronic" meaning that they develop and persist over a long period of time. And the reason for being "chronic" is that they build up from a long time of eating the wrong foods, usually excessive carbohydrates without doing enough exercise to burn them off. Most undergraduates on campus and young people everywhere have initiated their portion of chronic diseases by eating inflammation-inducing instant nodules and junk foods in general.

b. People often retort by asking, "What are we eating today that our forefathers did not eat?" There are many components to the answer:

a. Their foods were more diverse than ours. Our downsize list has led Horticultural Society of Nigeria to devote a whole Annual Conference to the title: ***Lost crops of Nigeria***.

b. The crops we lost, alas, are commonly those that were low in carbohydrate. So today we eat

more carbohydrate than they did.

c. Many of those lost crops were rich in antioxidants; our modern staples are less so.

d. Their staples were little processed; ours are heavily processed. About 40 years ago, bread was rarely eaten, about once a week in most Yoruba villages in Nigeria; bread was available when people imported it from Lagos, a highly commercial city in Nigeria. Rice was taken in homes only about three or four time per year: on the major festivity days (Christmas, New Year Day, Easter and wedding days). Today it is taken at least ones, or even twice or thrice daily in many homes. Cassava food products were then largely regarded as foods for the dry season. Pounded yam was taken with fresh "bush meat", with soup loaded with fish and iru (locust beans).

e. Their foods were fresh from nature's factories (the plants).

f. They had fresh air directly from plants around the houses.

g. Their soils still had high levels of the minerals ions that must be present in our foods. Today much of the minerals in the rhizosphere (the soil depth at which the roots of our crops find nutrients) have been washed by erosion into the ocean and the top soils are largely depleted of mineral ions.

h. Their cooking were done in earthen pots that release mineral into their foods, ours release

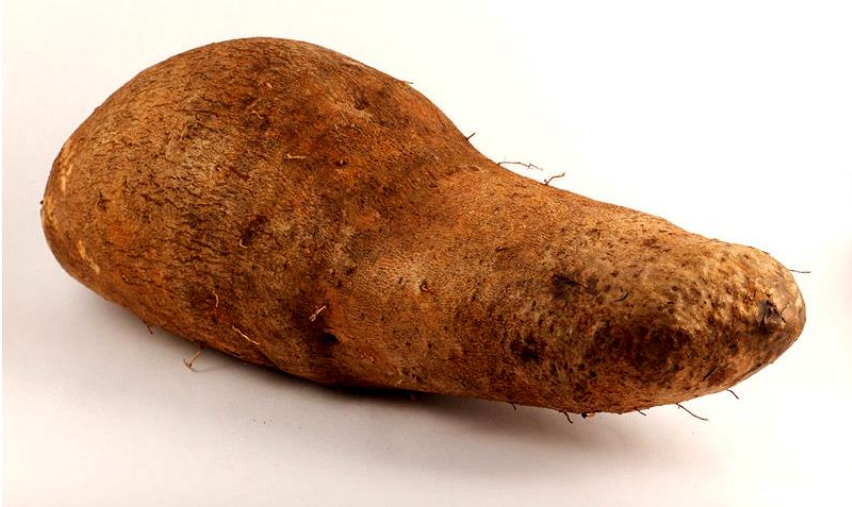


Figure 13: Smallish size of root tubers of today is an indication that our soils are getting depleted of nutrients

aluminum (known to be toxic to our health).

i. Their water sources were not yet polluted by domestic or industrial pollutants.

j. Their air was pure. Ours is polluted in many ways, including home power generators.

k. Their villages were quiet and their sleep sweet; our cities are noisy and our ears, even in bed, filled with noise from the environment.

l. For them, all active engagements stopped at sunset; for us, that is when to watch football and other entertainment till about midnight. Their body had time to recuperate, ours carryover sleep, leading to buildup of inflammations and unhealed issues.

m. Their level of physical exercise was far, far higher than our generation. They went to farm,

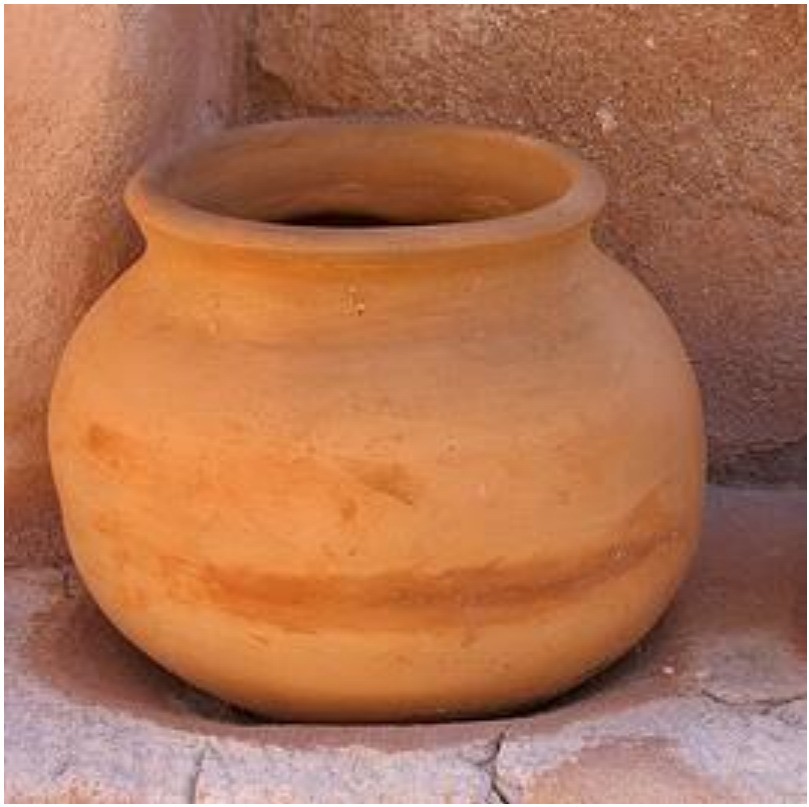


Figure 14: Clay pot, some used for cooking, some for storing water, both releasing mineral nutrients for consumption.

trekking, worked the farm, carried load back home, got almost all day exposure to sunlight.

n. Little wonder, when we try to eat what they ate, we run into modern disease.

What is the role of a university in solving health issues? Isn't the solution in the exclusive purview of the doctors and paramedics? Not quite. The university is the best platform for

dissemination of information, and therefore should be the best place to train everybody to take responsibility for his health. Most people who urgently need the information and warming against eating wrong foods that dent the future are at university age. It is therefore one of the geniuses of our Landmark University Founders that a series of courses termed ***Total Man Concept*** is an integral part of our undergraduate education. The contents of those courses include spirituality, physical fitness, realities of living, etc. It is therefore necessary next to indicate how our Landmark University can train her campus community, especially students, in the habits that make for healthy living now and for the future, and how the university community could be an agent of health blessing to the larger community outside the ivory tower.

18. DEPARTMENT OF BIOLOGICAL SCIENCES RESEARCHING IN THE CONTEXT OF LANDMARK UNIVERSITY AGRARIAN MISSION

Our Proprietors have a mission that every Nigerian, and indeed every African, should be well fed. That is the number one prescription to everyone to be alive. Our University thereby may be regarded as the Primary Doctor for the nation.

That is an uphill task. Yet our first two core values (Spirituality and Possibility Mentality) simply demand that we put our faith into action. By the Spirit of the Intelligence (God) that created out of nothing the complexities that the whole world of Science is still trying to understand, and by that Spirit that He breathed into us to make us Living Souls (Gen 1:7) the Landmark University has become committed to that "Mission".

a. We recall that when a man's way pleases the Lord He makes even his enemies to be at peace with him. This we hold to mean that even nature and weather will be at peace with our dream and Mission.
b. We at the Landmark University believe that as we daily abide in Christ and His word abides in us, nothing shall be impossible for us to achieve, because God will make His way (strategies) known unto us and his acts (impacts) to the children of men. We hold that if there is still a "joker" that our Father God is still keeping away from the rest of the world, He will care to reveal to us.
c. We key into the Promise of that Intelligence that one person will be strong enough to chase a thousand and two

shall chase ten thousand. After all, the Bible says of David's valiant men that some of them had the enablement and capacity to singlehandedly handle 1000 warriors. An analysis of the chronicles of those valiant men reveals that they were God-inspired, resolved, bold, strong, physically trained, fast, risk takers, ready to sacrifice their lives, etc.

Complementing that mission our Department is working towards developing simple recipes from the local staples into naturopathic treatment for the common health issues.

a. To fast-track this mission the Department has initiated a record of the common foodstuff and herbs commonly used to address ailments around our locality.
b. Our staffs are carrying out diverse studies that translate their specialized training into solutions to community needs.
c. Even our students are trained to carry out context-applicable researches. Among the Final Year Research Reports submitted just last July (2014) some of them addressed:
    a. How to use local foods to treat diverse diseases, including diabetes, sleep disorders, microbial infections, etc.
    b. Use of local herbs to remediate wastewaters,
    c. How to use local plant materials to preserve perishable crops for weeks of shelf-life.
    d. How to use domestic wastes to generate cooking gas, etc.

The whole idea is that graduates of this Department are expected to apply their training to convert agricultural products

to solve some local issues and challenges. The table following illustrate the applied research carried out by our maiden set of graduates.

Table 1: A summary of some Final Year Student Research Project Reports (FYPR) for the Maiden (July 2014) Set of Graduates in the Department of Biological Sciences, Landmark University, Omu-Aran, Kwar State Nigeria

Gist of the Research	Issue addressed	Title of FYPR Report
Preservation of perishable foods without using chemicals	Food preservation	Ability Of Powdered Preparations Of Moringa Oleifera Organs To Preserve Fresh Tomato
No wastage: even quail egg shell is medicinal	Food recycling: (Waste to Health)	In-Vitro Antimicrobial Property Of Quail Egg Shell On Some Dermatitis-Causing Organisms
No wastage, peel can be used to generate cooking gas for homes	Food recycling: (Waste recycling)	Co-Digestion Of Pineappple Peels (Ananas Comosus) And Food Waste For Biogas Generation
Use of watermelon to treat diseases	Foods for Medicine	Effect Of Extraction Methods On The Antibacterial Activity Of Citrullus Lanatus
Many people suffer sleep disorders. These foods provide hope for cheap treatment.	Foods for medicine	Potential Somniferic Effect Of Mucuna Pruriens Seed Extract And Coconut Oil
Because in Yoruba folklore, "Pounded yam wears egusi	Foods for medicine	Evaluation Of The Toxicological Implications

Gist of the Research	Issue addressed	Title of FYPR Report
shoes", we must know how good the footing is, and help it to provide firm health.		Of Comsuming Whole Fruit Consumption Of Citrullus Vulgaris
Grandma may not be uneducated when she insists on rubbing "adi" (palm kernel oil) on the head and body of the new born babe. She could well be appointed consultant microbiologist to your family!	Foods for medicine	Antifungal Properties Of Palm Kernel Oil Against Selected Dermatophytes
The old "ogiri" (fermented melon seed) may have saved many lives by preventing aflatoxin in their gut.	Foods for medicine	Effect Of Fermentation On Phytochemical And Antioxidant Contents Of Citrullus Colocynthis ("Egusi"
Yes, "ogiri" (fermented egusi), taken as probiotic, can be your savior from some form of abdominal pain and from developing autoimmune diseases.	Foods for medicine	Phytochemical Profile And Antibacterial Activity Of Fresh And Fermented Seeds Of Citrullus Lanatus (Matsum & Nakai)
A good percentage of our health issues are related to inadequate sleep. Our Department is rehearsing how to improve your sleep.	Foods for medicine	In Vivo Somniferic Effect Of Olive Leaf Extract And The Synergistic Effect Of Coconut Oil
Because the yummy avocado is excellent for our health, our Department checks that it is safe from microbes. Please, eat at least one avocado daily.	Foods for medicine	A Study On The Phytochemical And Microbioal Profile Of Avocado Fruits
We, and all people around us must be healthy. So we monitor that their key organ, the liver, is free from the destructive	Community health monitoring	Prevalence Of Hepatitis B Surface Antigen Among Apparently Healthy Individuals In Omu-Aran

Gist of the Research	Issue addressed	Title of FYPR Report
Hepatitis B virus.		
Does your happy child sneak out to swim or throw fishing hooks in a snail-infested pond? Or do you notice that his or her urine appears stained with blood? Part of our commitment to the community is to identify what microbes and parasites may be infecting them so that adequate controls can be put in place.	Community health monitoring	Studies On The Prevalence Of Urinary Tract Infections Among Subjects In Omu-Aran Community, Kwara State Of Nigeria
Earthworms not only bless our soils and crops, their casts provide anticancer agents!	Ethnomedicine	Phytochemical, Antimicrobial, Cytotoxicological And Antioxidant Enzyme Properties Of A Wormcast
Fertility issues? Relax. Our Department is speeding up with help for all in need.	Ethnomedicine: (Fertility)	Evaluation Of The Aqueous Leaf Extracts Of Cissampelos Mucronata On Testicular Function Indices Of Male Wistar Rats
The old black "aporo" (lime concentrate) is not demonic after all; its color is sign that it is seriously and sullenly protecting you against diabetes, high blood sugar level, high cholesterol level and from many toxins.	Ethnomedicine	Antidiabetic, Antidyslipidemic And Antioxidant Effects Of Lime Concentrate ‘Aporo' And Mucuna Pruriens Seed Extract Mixture In Alloxan-Induced Diabetic Rats
What if controlling diabetes, internal inflammations and high cholesterol level is as simple as taking a regulated dosage of ******	Ethnomedicine	Antidiabetic And Antidyslipidemic Effect Of Ethanolic Extract Of Alternanathera Pungens On Alloxan Induced Diabetic Rats
We may have underrated the	Ethnomedicine	Comparative And

Gist of the Research	Issue addressed	Title of FYPR Report
antimicrobial power of our common lime concentrate popularly called "Aporo".		Antibacterial Study Of Lime Concentrate (Aporo Egbe And Aporo Ijebu) Against Selected Bacterial Isolates
The herbal plants called "idi" *(Terminalia avincennoides*) and "efinrin" *(Ocimum gratissimum*) may be our shields against the pinchy little microbes.	Ethnomedicine	Antimicrobial Effect Of Terminalia Avincennioides And Ocimum Gratissimum On Selected Organisms
Herbal treatment of diseases	Ethnomedicine	Antibacterial Activity Of Four Medicinal Plants On Selected Clinical Isolates
Remember castor oil? Yes, its oil is medicinal	Ethnomedicine	Whole Plant Profiling For Phytochemical Constituents In Castor Plant (Ricinus Communis L.)
Heavy metals inhaled and ingested are among causes of our inflammations, hypertension, and kidney damage. Imagine using moringa leaf to cure them.	Toxicity	Moringa Oleifera-Supplemented Diet Protected Against The Nephrotoxic Effect Of Nickel In Wistar Rats
The plant called "*Abo*" is a recipe in many successful herbal preparations. Soon our Department will be in position to advise on home preparations and uses.	Toxicology	Toxicological Evaluation And Antioxidant Effect Of The Aqueous Leaf Extract Of Annona Senegalensis In Rat
Pharmaceuticals (drugs such as gentamicin), like all strange molecules (xenobiotics), may produce some damage to our organs (such as the kidneys). We are on the van guard seeking how to protect you.	Toxicology	Prevention Of Gentamicin-Induced Nephrotoxicity In Wistar Rats Using Ethanolic Leaf Extract Of Annona Senegalensis

Gist of the Research	Issue addressed	Title of FYPR Report
If we cannot, and must not, stop 80% of the world population from depending on herbs for their health care, our Department monitors the common local herbals, so that we can warn when users are over-consuming or reacting negatively to them.	Toxicology	Biochemical And Morphological Changes In Rat Liver Orally And Repeatedly Exposed To Fijk Herbal Mixture
Our red blood cells carry oxygen around our body. We cannot afford to tinker with them by inadequate or inappropriate dosage of herbals. Our Department is on the rear guard examining their negative effects.	Toxicology	Biochemical Indices In Rat Etythrocyete Following Exposure To Herbal Remedies: In Vitro Model System
Imagine an imminent future in which we teach you how to use your poopoo and home refuse to produce your cooking gas.	Waste to wealth conversion	Investigation Of The Biogas Potential Of Watermelon (Citrulus Lanatus) Peels
The community around us must drink healthy water. We do our part to help monitor the water purity.	Water quality Assurance	Diversity Of Aquatic Fungi In Selected Streams Around Landmark University
Our University community and neighbors must be healthy, so we monitor the chemical and microbial qualities of water sources around us.	Water quality Assurance	Physicochemical & Microbiological Properties Of Water Used In Landmark University, Omu-Aran, Kwara State, Nigeria.
Untreated dyes that flow from factories into our water can be hazardous. We can employ bacteria to remove them.	Water Remediation	The Role Of Selected Bacterial And Fungal Species In The Decolouration Of Dye In Wastewater
Our students are exposed to the	Predictive	Comparative Bioinformatic

Gist of the Research	Issue addressed	Title of FYPR Report
modern tool of Bioinformatics, and to Biotechnological principles.	Biology	Analysis Of 5' Non-Coding Regulatory Regions Of Sucrose Synthesizing Isozymes Of Maize, Rice & Sorghum Plants

Figure 15: Sample copies of Final Year Student Research Project Reports

19. POTENTIAL POWER OF EARTHWORM TECHNOLOGIES TO IMPROVE FOOD PRODUCTION

I am an oligochaetologist. It may be asked how are earthworms related to mass production of food and health facilities for the teeming population of the world? An ad hoc team of four oligochaetologists has been formed to popularize earthworm participation in mechanized agricultural production. The team comprises the following. My humble self, specialized in Earthworm Taxonomy and Distribution in Relation to Soil Fertility and Crop Performance (Owa *et al.* 2001-2014). I am here at the Landmark University. Dr. Gabriel Dedeke is on Earthworm in Lifestock Feed Formulation and Health. Dr. Adeyinka Aladesida is on Earthworm Production and Business. Both Drs Dedeke and Aladesida are in the Federal University of Agriculture, Abeokuta. The fourth member, Mr. Folarin Owagboriaye of the Olabisi Onabanjo University is on Earthworm Enzymology with respect to Environmental Toxicology and Bioremediation. The Team has worked out the following strategies for Earthworm Technologies in Mechanized Farming.

The dilemma of our benefactor earthworms:

Earthworms have a dilemma from a strange quarter: mechanized farming. Before mechanization earthworms faithfully fertilized the soil, controlled weeds, controlled pests, forked the soil, and provided growth hormones to the crops. Earthworms were the agricultural engineers before the professors were born. However, because their function was not appreciated, when the learned agric engineers were made, they

practiced their profession oblivious of the earthworm natural engineers. The plow, harrow and ridger do their work dutifully, caring little if all the earthworms in the soil are all brutalized, exposed naked to the ultraviolet light of the sun, exposed to their avian predators, or even fragmented and decapitated to death. The designers of those farming implements have not designed them to spare earthworms. Thus, agric mechanization that is supposed to compliment the endogenous efforts of the earthworms would rather supplant and annihilate them.

No better are other aspects of mechanization. Many agrocides are not designed to spare the earthworms. The agrocides pretend that they alone have the power to control pests and weeds, the very functions that earthworms have performed for millennia.

Even the unmechanized farmers too have not appreciated nor spared the earthworms. Rather than allow earthworms to recycle their cleared grass litter, they would rather set an inferno to destroy both the grass and the earthworms under the grass. Rather than conserve the habitat of the earthworms, the peasant farmers prefer to operate the soil in a way that exposes the earthworms to sunlight, thus dislodging and destroying them. And thus, even among the direct beneficiaries of their dutiful labour, the earthworms have their destroyers.

If we reflect and repent, we can collaborate with the earthworms in a number of ways. In fact, we can build technologies around them. Below we attempt to show what such technologies are possible, giving from our personal experiences why we think they are viable possibilities.

a. **Earthworm technologies:**

The following technologies can be built around earthworms with respect to food production:

a. Earthworm breeding and multiplication
b. Earthworm urine technology
c. Earthworm cast technology
d. Vermiculture and vermicompost technology
e. Vermifeed technology
f. Vermocrine technology
g. Vermecology technology

a. **Earthworm Breeding And Multiplication:**

The first and perhaps the most daunting earthworm technology is breeding and multiplication. This is still fraught with many but surmountable challenges.

b. Earthworm Urine Technology:

Earthworm urine is excellent source of at least two important products - a fertilizer and a plant growth hormone (Tomati *et al.,* 1987; Tomati *et al.,* 1988). The desirable technology therefore involves three necessary steps: how to produce economic scale quantity of the earthworm urine, how to apply the urine produced to irrigate the farm and how to apply the urine as a plant growth hormone. A technology that will serve must be profitable. Like the "wall of Jericho" perambulating the production aspect is taking quite some time, but will soon succumb to technology. The present method involves some form of vermiculture. The challenge is how to increase the speed and quantity of production. The application of the produced urine for irrigation is achieved using the existing

usual irrigation facilities.

Similarly, the application of the earthworm urine for plant growth stimulation is simply achieved by spraying with a sprinkler, much the same way an insecticide will be sprayed over a farm (Yelmsworms, 2006). There is, however, an important difference: whereas the spray of an insecticide is not expected to transmit microbes to the crop, the application of earthworm urine may transmit soil-born microbes. This necessitates the interposition of a urine-filtering method. Luckily again, for that purpose, we only need to borrow a leaf from the principles applied in a public water processing plant, where the water is passed through filtering sand.

c. **Earthworm Cast Technology:**

Today, earthworm cast is regarded as the most effective probiotic conceivable. Wormcast products are now sold as Vermaplex™ and Pure Black Castings™ (**Freshwater Organics, 2010).** Whereas probiotics are available from many other sources, that from earthworm cast is by far the richest, being a product of hundreds of thousands of microbes that live in the gut of an earthworm (Morgan and Burrows, 1982; Satchell and Martin, 1984; Idowu *et al.,* 2006). Owa *et al.* (2009) have shown that there is a natural mechanism in earthworms to multiply ingested microbes along their gut.

Beyond probiosis, the humates (humic acid, fluvic acid and humins) derived from earthworm cast are again the best of their types. Among their applications is the stabilization of the enteric conditions of farm animals, improvement of their feeding quantity, improvement of their feed-to-biomass conversion, their tolerance to overcrowding, their physiological

stress management, milking and lactation performance, etc. Needless to say, the resultant effect is ability to achieve larger stocking density, healthier crop, easier management, lower cost of production and, ultimately, larger production and profit.

To harness these probiotic and humate advantages wormcast processing plants have been created, in South Africa (Joubert, 2010) and other places (Canellas *et al.,* 2000), where the active ingredients from earthworm cast are extracted.

d. Vermiculture And Vermicompost Technology:

Just as poultry is the technology to mass-produce birds, so is vermiculture the technology for mass-producing earthworms (Edwards *et al.,* 2010). In outline, it involves stocking starter earthworms in containers where viable conditions are made available for the earthworms to live, feed, grow, reproduce and multiply. The environment must be moist but not waterlogged; it must be well aerated; right vegetable food must be made available; and they must be protected from predators and from hazardous environment.

Equally important is the need to select a prolific species. Selecting a poor performing earthworm will only amount to hobby armaturism. Here, again, there is limited information as to which worm is best for particular purposes. But again, we have much to learn from the poultry industry. Different varieties (breeds) are used for layers and broilers, based on their ability to perform in those capacities. Similarly, we need to select which earthworm to use for specific purposes.

As a side lesson, we are delighted to share with you that a "slave earthworm" from Nigerian soil now rules an empire on which the sun does not set! The slave earthworm, *Eudrilus*

eugeniae was carried with slave from Nigeria to Central America where, by dints of hard work, it proved its excellence. Its effectiveness was recognized. From there it was carried into North America and thence to the Far East. It was pleasantly amusing when earlier this year an invitation (of Prof. Owa) on the Board of Examiners for a Ph.D. thesis showed that in far away India *E. eugeniae* is being used for recycling of waste materials. What a moral lesson: if, far better than a Nigerian earthworm, the Nigerian people will be dutiful and diligent, we should soon rule our world, including our former colonial rulers. What stops the Nigerian people from economically ruling an empire on which the sun does not set?

e. **Vermifeed Technology:**

This is technology of incorporating earthworm meals into animal feeds. Studies have shown that earthworm meals are as good as any of the alternatives commonly incorporated into animal feed formulations. The amino acid and fatty acid profiles of earthworm meat are as good, and often better than beef (Dedeke *et al*., 2010). Dedeke (2009) found that *Clarias* (fish) fingerling fed earthworm inclusion performed as well as those that included fish meals.

And because earthworm is not regular on human menu list, earthworm meals may be considered an alternative or, better still, a replacement for fish meals in animal feed formulations. Again, the success of this potential technology is predicated on sufficient production of earthworm biomass.

f. **Vermocrine Technology:**

Just as the base of our brain is source of the mothering

hormone oxytocin, so also is the brain of earthworms the source of an oxytocin analog called annetocin. It is now known that this earthworm hormone, that is ten times more potent than the human oxytocin, is the secrete of the obstetric success of the traditional herbal midwives who administer earthworm meal in the form of "special dainty" (*aseje* in Yoruba) to a woman that has problem pushing at childbirth. The success achieved in these cases is explicable due to the greater potency of annetocin over oxytocin (Ukena *et al.*, 1995)

A technology is needed to experiment and subsequently produce on a commercial scale enough annetocin to meet the parturitional needs of women at childbirth. For emphasis, it is necessary to note the importance of experimentation and clinical trials of annetocin before its adoption for clinical application. This is necessary because its high potency may be an explanation for why a little overdosage may result in uterine rupture, commonly experienced in herbal home deliveries.

Yet developing this endocrine technology is a potential earner for the country as Nigeria is blessed with oligochaetes whose "annetocin" potency (expected on theoretical and empirical considerations) may well exceed a thousand times that of oxytocin. The technology expected here is essentially endocrinological method customized for extracting, identifying and characterizing the several forms of annetocin, and how to package them for clinical trials and subsequent application.

It is certainly of interest to know how application of annetocin in animal husbandry can improve the performance of domesticated animals. For example, how will its application improve lactation in dairy animals? How does it affect parental care in domesticated animals? To these and many more

questions we have no answers. Yet a possibility exists that simple experimental application of earthworm meals can improve our animal production, food security and health.

The journey of a thousand kilometers begins with the first step. And we have taken that first step.
Following the above-stated lead, I assigned a final year biochemistry student to investigate the medicinal potentials of an overseasoned earthworm cast. That exciting preliminary results indicated that, indeed, the earthworm cast is a medicinal capsule that is rich in probiotics, antioxidants, and anti-cancer properties, only waiting to be swallowed with cool, cool water (Otohiniyi, 2014).

Thoughts of Earthworms in our Agrarian Revolution
We have tried to show above that earthworm technologies are very potent components of our agrarian revolution. Because of our cultural background, it will take a revolution of paradigms and mind-set to afford adequate thought to earthworm production and technologies. Yet, when we start, we may find our food production efforts are made easier and more gainful.

Let's think earthworms; let's talk earthworm.

20. SIMPLE PRINCIPLES FOR EXERCISING CONTROL OF YOUR HEALTH ISSUES

It is largely true that every man is the architect of his own health. The Creator has put in place all that we need to be healthy. Here are a few ways you can take command your own health.

a. **Diet**:

Our excessive carbohydrate intake without adequate exercise to burn it off is known to be at the root of our many health issues including inability to sleep well, overweight, hypertension, stroke, heart disease, etc. If you are not a very "sweat-job" kind of person, reduce your carbohydrate intake. Rather go on your homemade whole grain legumes and cereals; avoid processed grains because they are often over-processed. If you are diabetic place yourself on one month almost exclusively oil and protein food during which you avoid most products of wheat, banana, plantain, cassava, yam, rice; but rather take products of egg, meat, milk, vegetables, plenty of water, fruits. Remember to do vigorous exercises too. If your friends get concerned about cholesterol in egg, remind them of the following quote from Heilbro, (2010) that:

"Doctors have been flip-flopping about eggs for decades. In 1956, doctors blamed America's rising rates of heart disease on consumption of butter, lard, beef, and eggs. Eggs, they said, contain too much cholesterol.

The famous cardiologist, Paul Dudley White, M.D., was one of the few physicians at the time who rejected this notion, noting that heart attacks were non-existent in 1900 (when egg

consumption was three times what it was in the 1950s).

Doctors still advise us to consume eggs no more than one or two times per week. But this is simply more bad advice. In a 2005 study, participants who ate two eggs every day for six weeks showed no increase in total cholesterol, no increase in LDL (bad) cholesterol, and no narrowing of the arteries."

b. **Lifestyle**:

Make yourself active. Avoid/ minimize sitting long. Create a reason to rise from your sit every 15 min. Go to your secretary instead of inviting her by a bell. Keep yourself standing while working in your office, except when receiving strangers, etc. Have you notice that "busybodies", though not a perfect role models, are hardly fat. They tend to be slim and healthy because they regularly rise against gravity (Mercola, 2013) and keep moving to burn off excess energy. Don't be a busybody, but attempt their active lifestyle.

c. **Exercise**:

Do vigorous exercise that make you breathe deeply/pant for about 15 min daily. It oxygenates your system to burn off accumulating waste products. By the time you are sweating, you are also producing human growth hormone (Wislett et al. 2009) that keeps you

youthful. Exercise keeps your muscles hungry such that when you eat, the muscles devour the food without leaving much leaving much excesses to store into fat tissue. Exercise improves your mood, learning ability, confidence, sexual performance, etc. Have you noticed how healthy and youthful active sportsmen and women look? It builds their testosterone, making some of them that are not disciplined to become promiscuous.

d. **Sex**:

Sex with your spouse aerates your system, lessens stress, improves blood pressure, improves heart health, increase how much calories is burnt, reduces pains, strengthens muscles of your pelvic floor, boosts immunity, improves self-esteem, improves intimacy with your spouse; frequent ejaculation may reduce the risk of prostate cancer and enlargement; sex induces release of testosterone into your system which strengthen muscles; it sharpens your mind, improves your mood and performance at work, increases your longevity, etc. The panting at orgasm improves oxygenation of your system to achieve some of these benefits mentioned. Note, however, that guilt comes when it is not done with your own spouse.

Figure 16: Sleep is not a luxury. A sound sleep is necessary for our health. Could the general cut-down in our number of sleep hours be responsible for increase in chronic diseases today?

e. Sleep:

God did not make a mistake to allocate about 12 hours to the night. A good sleep, at least 6 hours and at most 9 hours, is necessary for our body to recover from the stress produced during the daily activities (Lugaresi et al., 1993; Bixler et al., 1999). Somehow we know that fact very well; that is why we usually ask a sick person if he had a good sleep. Sleep is time to heal many health issues raised during the wakeful hours. Our excessive cheat on sleep hour is partially responsible for many of our chronic diseases, including over-ageing, sluggishness, tiredness, heart disease, hypertension, obesity, etc. About 80 sleep diseases are known to science. Most of them are cured by good exercised, right food, finding something to do in the

bright sunlight, etc.

21. HOW TO HEAL YOURSELF OF THE COMMON DISEASES (ASSISTED BY YOUR DOCTOR)

a. Heart disease:

Dwell more on legumes (bean products, groundnut, bambara groundnut, a little well fermented soybeans, etc), and high amounts of nuts, seeds, fruits and vegetables, vitamins C, D, E, foliate, magnesium multi-minerals, L-carnitine, CoQ10 (cheaply available in palm oil and groundnut), bromelain (pineapple), garlic, ginger, and chromium polynicotinate. Omega-3 oil sources (such as olive oil, soy oil or, flax oil), etc.

Figure 17:: Blood pressure checker. Today, it is known that raised blood pressure is not due to cholesterol but to inflammations and plague formation in our blood vessels. Inflammation and plaques result from our wrong foods (especially excessive sugar, more especially sucrose. Sucrose is richly taken in grains, honey, many sweet fruits). Other causes of inflammation include lifestyle and environmental pollution. Don't pursue how to reduce your cholesterol, rather, identify and remove the inflammation agents around you.

b. **Diabetes**:

Cut carbohydrate to barest minimum. Eat fatty foods and some proteins, and minimum carbohydrate. Declare one month to avoid all avoidable carbohydrates. Avoid wheat (and wheat bread); avoid all plantain (ripe or unripe). If you are already on a diabetic medication let your doctor know that you are planning to adopt this diet (and work with him) so that you both can scientifically phase out your medication.

c. **Hypertension**:

Identify what (most likely) modern food is responsible for the inflammation inside your arteries that cause the hypertension. Don't run after how to reduce cholesterol; that is a friend. The commonest culprits are excessive carbohydrate intake with sedentary lifestyle. Do vigorous exercise to a panting point daily. (Please, note that if you have not been doing vigorous exercise for many months, you will need to re-introduce exercise gradually, after your doctor has checked that your heart is in good form to cope. Even if you have a heart disease, graduated exercise is number one cure. Discuss with your doctor.)

Noting that it is not cholesterol level that causes hypertension, but rather inflammations and plaque formation (Mercola 2013), burn the inflammator molecules off your system by vigorous exercise. Note, too, that a second cause of hypertension is high

viscosity of the blood due to high load of unusable materials dissolved in it. They include pollutants, nutrient-low junks that are un-metabolizable or only slowly metabolized, some regular drugs that are not promptly broken down and metabolized, etc. Identify those that you think you are exposed to, and design how to avoid them.

Note also that heavy metals have high density and when high in our blood, they make the blood viscous, thereby demanding extra effort on the heart. Check the levels of heavy metals in your system regularly, using the Quantum Magnetic Resonance Analyzer, and detoxify yourself promptly, if necessary.

For example an elderly retired biochemist recently told me how he woke up with a high blood pressure reading (180/110), but after the 30 minutes detoxification his BP dropped to 150/80. The detoxifying machine removes some of the excessive high metals from the blood, a job normally done by metallothionein (Hayes et al 2005, Min 2007).

d. **Overweight**:

Good weight is good if it is muscles and not fat. Don't be afraid to be heavy, but check that you are not "fatty". If you are fatty trick your body to start emptying your fat store by going exclusively on legumes (peas, beans, groundnut, etc) and cereals (guinea corn, millet), sesame, etc; Notice that I carefully didn't mention maize, because the level of

available carbohydrate in maize is somewhat still high for someone that wants to lose weight.(You will notice that animal feed producers would rather use maize that is highly digestible, thereby releasing much of its energy content, than use guinea corn with releases far less digestible energy.) Note also that the weight we gain comes more from the excess carbohydrate that we eat, much less so from the fat that we take. Go almost all on fatty foods. That will force your body to change energy sourcing from carbohydrate to using fat as fuel and thereby reduce drastically your fat stores. (Just a few days ago, a group of naturopaths at Ibadan joyfully reported that they used the food timetable recommended in my books to produce a weight loss of about 3 kg in two weeks in their clients. The timetable is essentially a high fat, low carbohydrate diet.)

Figure 18: Counterintuitive diet effects: The Fulani (eg, this lady) take high dose of (even saturated) fat, yet they are slim; in the typical Nigerian villages pigs are fed cassava (almost pure carbohydrate) yet they are fat loaded.

This is due to inflammations. And it is often associated with overweight. Again, reduce your carbohydrate intake. Go on fruit, vegetables, legumes and cereals, Don't forget that the first treatment is exercise such as trekking, even though you are also likely to be poorly motivated to do any vigorous exercise. Be sure to have at least one tablespoonful of ginger and garlic daily. Take unripe pawpaw and pineapple daily (Ajay, Ajay & Rao, 2011).

f. **Cancer:**

Cancer is not a disease; or rather, it is not THE disease (Adams 2007; Andreas Moritz 2008; Baker 2013)). It is a friend drafted in to help deal with a foreigner in our body. Unfortunately we face cancer with our literarily deadly arsenals (chemotherapy and radiotherapy). It is often claimed that we do not know what causes cancer. But it is known that everyone, everyday produces some cancer cells that do their job and recede. Therefore, cancer must be related to something we daily do wrongly, and the first suspects are our foods. We do well to analyze our foods and lifestyle that either bring some strange molecules into us or make our body to produce some strange/ unusual molecules which cancer cells are drafted to fight. A common way we produce strange molecules inside us is glycation, ie, excess glucose molecules, joining and binding our permanent fibrous molecules together, thereby producing new forms that are strange to our enzymes and immune system. Cancer cells are therefore drafted to help

Figure 3: Tumors and cancers are not a disease; they are survival mechanisms, combating incursion in our body. Cancer cells are daily produced in everyone and recede after clearing the incursion. We should fight on the side of cancer against the incursants.

destroy them. Andreas Moritz (2008) says:

> "It will perhaps astound you to learn that if you are afflicted with any of the root causes of cancer (which constitute the real illness) you would most likely die quickly unless your body actually grew cancer cells. In this work, I propose the understanding that cancer is a healing

process that we ought to support, not suppress or fight. I provide evidence that this rather unorthodox approach to healing cancer is far more effective than the methods that involve destroying it.

I further claim that cancer - the body's final healing mechanism - will only kick in after the body's main waste removal and detoxification mechanisms have already been rendered inefficient."

We may be intelligent by half when we try to destroy cancer cells rather than fight on their side. What to do?

(1) Increase your daily intake of each of garlic, ginger thyme and especially curry to at least one tablespoonful. That detoxifies your liver and kidneys, and boosts the powers of your enzymes that deal with inflammations and foreign objects.

(2) Go on all-oily food! That will give your body some respite from sugar/ carbohydrate assaults. In any case, even if you choose to consider cancer as a disease, cancer cells do not survive without sugars. So going on very low sugar intake resolves most cases of cancer, especially the forms that have their root in excessive carbohydrate intake (ie, where excessive carbohydrate is a/the culprit).

(3) And try to identify what other food or environmental intakes may be the strange

molecule or is producing the strange molecules inside you. Some of such include dental fillings that include mercury products, tattoos that involving using mercury products, exposure to lead and other heavy metals from smoke, some agrochemicals such as the weed-killer glyphosate in our foods, etc. When the strange molecule is withdrawn, cancer cells will "withdraw into the barrack". For example, if you choose to eat only organic foods, the inflammations produced by glyphosate and other agrochemicals will stop and cancer will withdraws. Check too that your dairy products are from organically raised cattle, free of heavy metal accumulation (Miranda et al. 2009).

(4) Increase your intake of multivitamins and micronutrients because the trouble may be their absence or low levels that prevent the completion of some metabolic conversions, thus leading to production of intermediate molecules that are regarded as strangers in the body.

(5) Check that your emotions are right. It is known that most, nearly all cancer cases are associated with some hurting in the mind: some love lost, failure to forgive someone that offended, failure to forgive self of past errors, mistakes and crime, dissatisfaction with one's life, etc. Forgive all, You may need to reach your pastor or counselor for counseling.

(6) In trying to get to the root cause of a cancer

case, there are usually about 60 questions to explore with a client, at the end of which some possible culprits are identified to deal with.

g. **Mental cases**:

Many mental cases (such as depression and schizophrenia) are due to low levels of the molecules, serotonin, dopamine or phenylethylamine (PEA), and a few others, in the brain. Please, do not assume *a priori* that a mental case is a spiritual attack. Take time to check. Many are improved simply as follow.

(1) Encourage the patient to find something doing in the sun. That will improve production of melatonin and serotonin which will improve mood, sleep and depression. Dopamine level will also be improved.

(2) Take raw cocoa drink (at least, Oluji cocoa

Figure 20: Cocoa beans and locust bean ("iru"). What if treating some mental cases and depression is as cheap as eating this humble foods?

drink) twice daily. That will provide PEA which will improve the mood of depressed people.

(3) Other sources of dopamine precursors and PEA include groundnut, bambara groundnut, and a little properly fermented soybean (Note that, in spite of many benefits, soya is not an ideal food. It can be a very bad health hazard.)

(4) You may be surprised that eating plenty of *iru* (locust bean), either in food preparations or even as snack, is all you need to be healthy mentally. Did you notice how people speak with excitement about *iru* in their food? It is the same fervor attributed to taking chocolate (semi-raw cocoa food). The two work in similar ways.

(5) For mentally slow child: increase *iru* intake for him/her.

h. **HIV**:

The trick for curing HIV is how to draw out the sanctuary cells to divide. It is the hiding of HIV inside the sanctuary cells that make them inaccessible to medication, thereby making total cure difficult. The trick is therefore to make the sanctuary cells to divide, during which the virus is caught by the medication. Those that I have recently assisted have quickly been declared negative to HIV test. But that is not final verdict until a few years cross-check re-confirms it. They are encouraged to continue their medication until we can confirm that the sanctuary cells have extradited the villain viruses hiding in them.

i. **Can Ebola Virus Be Locally Handled?**

Yes. The materials required are cheaply available, foods that we should be eating daily. However I don't feel it is safe here to provide half information which could constitute a risk, until the theoretically very feasible food-therapy has been formally tested. We can say with a large level of confidence, based on previous experience, that taking certain food materials make it impossible for HIV and Ebola viruses to get established in our body. Here in our Laboratory we have identified some foodstufsf that do not tolerate any virus. Research is in progress.

j. **Sickle cell anemia:**.

While we cannot change our genotype that produces sickle cells, we can neatly escape the sickling (bending of the red blood cells) that that genotype produces. How? Eat at least one product of any one of the following everyday: cassava (gari, eba, lafun, etc); yam (yam, portage, amala, etc); beans (beans, akara, olele, rice and beans, etc), tiger nut (ofio); guinea corn (ogi, amala/agasa, tanfiri, etc); unripe pawpaw. If you sense that a crisis is coming go on gari that was produced by one day fermentation (instead of the more common 5-days fermentation). That will increase your cyanate intake which will help improve the production of glutamic acid and improve your blood's oxygen carrying capacity. Ensure to take both a legume and a cereal everyday to ensure that your amino acid profile

is complete. Shun junk foods because they contribute to oxygen depletion in your blood, thereby increase the risk of having crisis. With these taken daily, you should not have crisis.

22. HOW TO HANDLE INEVITABLE SEDENTARY LIFE AND STRESS

Heads of department and chief executive officers are often unable to escape sitting for long and stress in office. When we sit long the stress hormone, cortisol, is released into the body. One effect is to make us gain weight. Here is a way to minimize the effects of sitting too long and being under stress.

a. Cut down on your total energy intake. Office life usually requires much less energy than active life, therefore cut down on your total energy (food) intake. An average person takes about 2,000 calories; reduce yours to about half or three quarters of that, ie, reduce your present food intake by about one quarter or half.

b. Let even that portion taken be mainly fat and protein , and little carbohydrate.

c. Find a reason to stand up from your seat every few minutes, best every 10-15 minutes, at worst every 30 minutes. Don't invite your secretary or subordinate by a bell/phone, prefer to go to her/him. If possible, move physically to the office of your subordinate to discuss issues instead of doing so on the phone. Remember that if you kill yourself by excessive stress, you will be replaced even before your corpse is buried.

d. Break cortisol production: When we sit long our adrenal gland senses stress and secretes cortisol, the

stress hormone. Minimize cortisol production by eating either of the following snacks after every two hours that you must be seated. Remember that the quantity you take is also part of the 1,200-1,500 calories energy that you take per day.

a. Proteins to minimize cortisol production:

(1) **Whey protein**: Collect "omi wara" from Fulani. Boil to sterilize, refrigerate.

(2) **Eggs**. Don't be afraid of cholesterol. Those who eat egg are healthier than those who don't.

(3) **Meat.** Pepper-soup snack is good

(4) **A little soya product**. Soy milk or "beske" in small quantity is good provided they originate from soybean that has been fermented for at least 7 days. Most common source do not ferment soybean enough and that constitutes health hazard.

(5) **Peas** (eg, groundnut). Get groundnut bottle fresh, or rather buy from hawkers (to guarantee freshness) bottle it yourself and refrigerate.

b. Low glycemic carbohydrate to lower cortisol:

(1) **Sweet potatoes**: remember to avoid fried potatoes because they are a great source of acrylamide.

(2) **Beans**: Taking beans is also likely to increase the production of the neurotransmitter called phenylethylmine (PEA) which increases your

mood and mental performance both at office and when reading privately at home.

(3) **Fruits**: Fruits are generally rich in antioxidants. Eat one in office daily. An apple is great, Avocado and other fatty fruits are excellent.

(4) **Vegetables**: They are rich in minerals and antioxidants. A little food flask of vegetable will revamp your energy in office.

c. Fatty foods to lower cortisol

(1) **Omega-3 oil**. Most vegetable oils are rich in omega-3 component. Olive oil is a very good one. Have one bottle in your office to take (1-2 tablespoonful) as antidote to stress. It will "anoint you" for extra energy.

(2) **Avocado**.

(3) **Nut**: eg, groundnut, cashewnut,

(4) **Oily fruits and seeds**.

(5) **Egg yolk:** Don't be afraid of cholesterol in egg yolk. You need it. Cholesterol is an anti-inflammatory, and anti-stress. Remember that in spite of theoretical fears, experiment on people who took two eggs daily for six week did not produce more cholesterol in the blood, nor raised blood pressure.

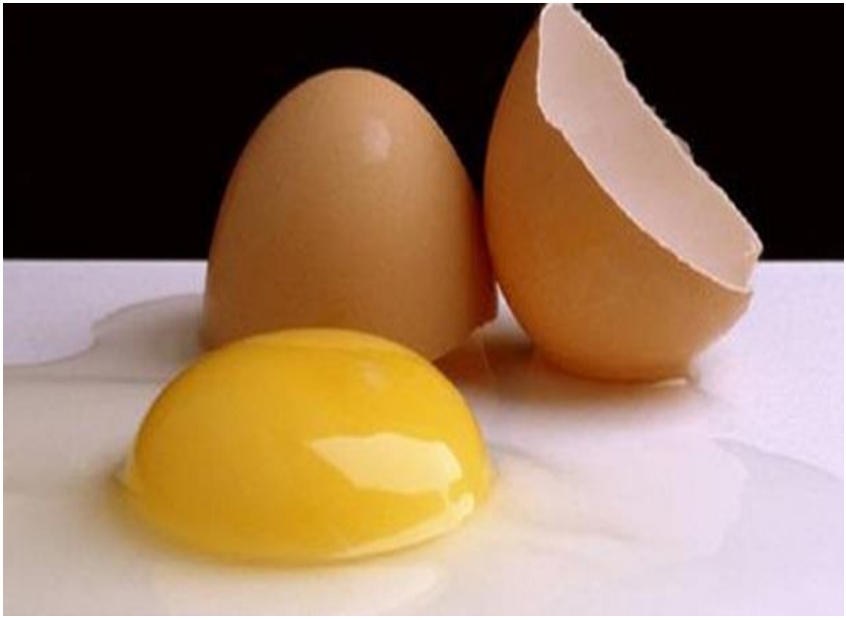


Figure 21: : Egg yolk is a friend, not an enemy.

d. **Deep breath:**
Every two hours, take a 10 minute breathing break during which you deliberately take deep breath to oxygenate your body.
The oxygen you inhale is needed to capture the electrons that are flowing madly in your body. By that it reduces general systemic inflammation, and thereby reduces your blood pressure.

e. **Discharge your floating electrons to the ground**.
f. Laying your bare feet on the floor enables electrons floating in your body to be discharged to the floor. Have you noticed how relaxed you feel when you

walk barefooted around home? It is because you were discharging floating electrons from the free radicals (the stress- and inflammation-causing molecules).

g. **Keep your blood flowing:**

At suitable intervals, close your door and attempt 120 straddle jumps in two minutes. You will be panting. By that you keep your blood flowing, and get a good outpour of the human growth hormone that keeps you youthful.

h. **If Possible Hold Your Meetings Standing.**

Studies show that it is best to hold your meetings standing. It increases speed and depth of discussion, and creates a bonding relation among members of the meeting. Where possible adopt standing meetings.

i. **Be Selective with your teas and beverages**:

There are debates about the suitability of caffeinated drinks. They are generally rich in antioxidants, but are also mischievous on our health. Avoid them. Rather take other teas that provide antioxidants without the side effects of caffeine or nicotine. Go for "Oluji cocoa drink". If you want, prepare your own raw cocoa drink which is rich in the stimulant theobromine (instead of caffeine), and also richly provides phenylethylamine (PEA) to produce the best of your health and brain. Green tea and black tea are also sometimes advocated.

Avoid caffeine (from many teas and coffee), and

nicotine (from cigarette)

j. **Improve your PEA Intake.**

PEA (***p***henyl***e***thyl***a***mine) is a neurotransmitter (chemical in our brain). It gives us good mood, increases our ability to focus, improves our motivation. Have you noticed how our neighbor cattle Fulanis start their trek to town, from their outskirt location, in the hot sunlight, sell their milk products in the hot sun and decide to return home in the same hot sunlight? That is motivation to do exercise. If your PEA is low, each time you plan to do a vigorous exercise, you will always have an "excellent reason" why it must wait till tomorrow. It will affect your reading, and all actions of life. Two great sources of PEA are the Oluji cocoa drink and the ever-present *iru* (locust bean). All legumes (including groundnut) will provide some levels of it. PEA is called the chemical of love. It is the reason children will bond in love more to their parent that brings home chocolate (a cocoa product source of PEA). Many cocoa drinks in the market have been unduly defatted and loaded with carbohydrates. They are not the best. Parents should remember to place their children on PEA-rich sources in order to stimulate their depth and length of attention and motivation.

k. Infect Your Colleagues with

These Info: Pass these teachings to your coworkers and subordinates, so that they can appreciate your scientific lifestyle, or at least excuse you to practice

your good health procedure for your own sake.

HEALTH IMPLICATIONS OF CHURCH ACTIVITIES & SPIRITUALITY:

Don't just join, but rather lead, in church worship activities, such as dancing, singing, waving hands in praise, praying standing, memorizing scripture verses, etc. God has enough angelic beings to do those for him. We do them to maintain our own health. Dancing and waving of hands provide exercise, singing improves breathing, praying involves generation or enhancing the production of neural patterns and paths because praying is thoughtful discussion with the Intelligence Himself (God). (Note how little is achieved by shouted prayers that do not go along with ***thoughtful discussion*** with God; avoid such; it is a waste of time.) Memorizing bible verses and "last lessons" improves your neuronal performances. Whenever you task your brain to memorize a chapter or outline of a teaching (classroom or church) your good mood neurotransmitter are happily secreted, making you to feel fine. Have you not noticed how even the elders smile gleefully when they force themselves to memorize the bible verses? It probably reduces their rate of development of Alzheimer and dementia.

It may be asked if there are valid testimonies concerning adopting these food recommendations to treat health issues. Here below I list only some cases. Are these teaching too theoretical? NO. I will round up this Lecture by telling

testimonies that are meant to drive home my objective that you should take control of your health.

Figure 22: Dancing and other church activities improve our health. When you sing, jump and dance, even in church, you are blessing your own health.

TESTIMONIES OF HOW PEOPLE USED FOOD TO TREAT THEIR DISEASES

a. Treating Diabetic Sore:

I was guest speaker at an Annual Conference of Animal Husbandry and Technologists. At the end of my talk and unending explanations that followed just outside the venue, a lady rushed to catch me before I departed. She presented with a bad, unending diabetic sore and speech pattern that made me believe that her mind (psychology) may already be affected. I assured her that only one month was required to heal the sore that her hospitals could not treat, but she is the person to heal herself. I retold her the rules, and instructed that before eating any food different from those I told her she should call me to confirm acceptability. She followed faithfully. The diabetes sore healed in only three weeks.

b. Treating Breast Cancer:

I was treating a breast cancer in Janet (pseudonym), Ruth (pseudonym) got a copy of the recipes that I sent to Janet; she on her own followed it to the letter. She got healed and one day called me to ask, "What next should I do?" I had never met nor communicated with Ruth before that call. I told her to present herself to her doctor for verification.

At the University Teaching Hospital Benin, she was confirmed healed and with two subsequent appointments at 3, 6 months interval, she was declared healed. I later met her at Lagos during which I discovered that a major cause of her cancer may have been due to hurting for a major marriage disappointment.

I counseled that the way to keep her health was to relate closely with Christ and forgive her early lover that jilted her.

c. Treating Hypertension and Diabetes simultaneously:

Pastor Matthew (pseudonym) of a Pentecostal Church called me to say, "Thank you Professor Reverend for healing me of both hypertension and diabetes, both simultaneously within a month." I have never met him before, not even till the time of writing this Lecture. My Landmark University student requested money to travel home on holiday. As I was broke I gave her a few copies of my book ***Eat Right*** to sell among her colleagues to raise her transport fare. She reserved a copy for her own parents, from whom that pastor got the copy, read it, followed it closely and healed himself. So when the Pastor called, I praised God with him but reminded him that It was God that made available the cheap materials, and that it was he that chose to follow it. The healing was a collaboration between God as the provider of the healing foods, and he himself the attentive and obedient servant. Later, the man sent me a complete suit, through someone. We are yet to meet physically.

d. Treating Overweight and Obesity.

Just recently, September 2014, trying to expand the horizon of some of my immediate (Juy 2014) graduates of Landmark University, I, with them, visited a naturopath in Ibadan. Unknown to me he had invited four other naturopaths to receive us. It was very heart-warming as they related how they used the food timetable that I proposed on one of my booklets

to achieve weight loss of 3 kg in two weeks in different persons.

e. **Treating HIV?.**

e. An excited voice called recently asking, “Daddy, the doctor says I am now HIV negative, what next must I do?” That is a trick question. You cannot declare cure in just one test. She was told that it would be necessary to continue her orthodox (anti-retroviral) drugs combined with the little tricks for the next two year, until the facilities are available to know that the last sanctuary cell has finally “extradited” its hostage HIV virus. But what a relief that that family now enjoys, so far.

The education aspect of my objectives is to write booklets that train everyone to take control of his/her health and treatment, My humble effort in that wise is listed next.

OWA'S BOOKLETS ON FOOD AND HEALTH.

We have published the following booklets that have blessed the health of many. They recommend foods to treat health issues.

f. Eat Right: (A nutritional Guide for Healthy Living);

This explains the principles of low-carbohydrate diet, and how to use it to treat the common diet-induced diseases such as overweight, obesity, diabetes, hypertension, heart disease, arthritis, etc

g. Diet for Geniuses: (Rich Yet Cheap);

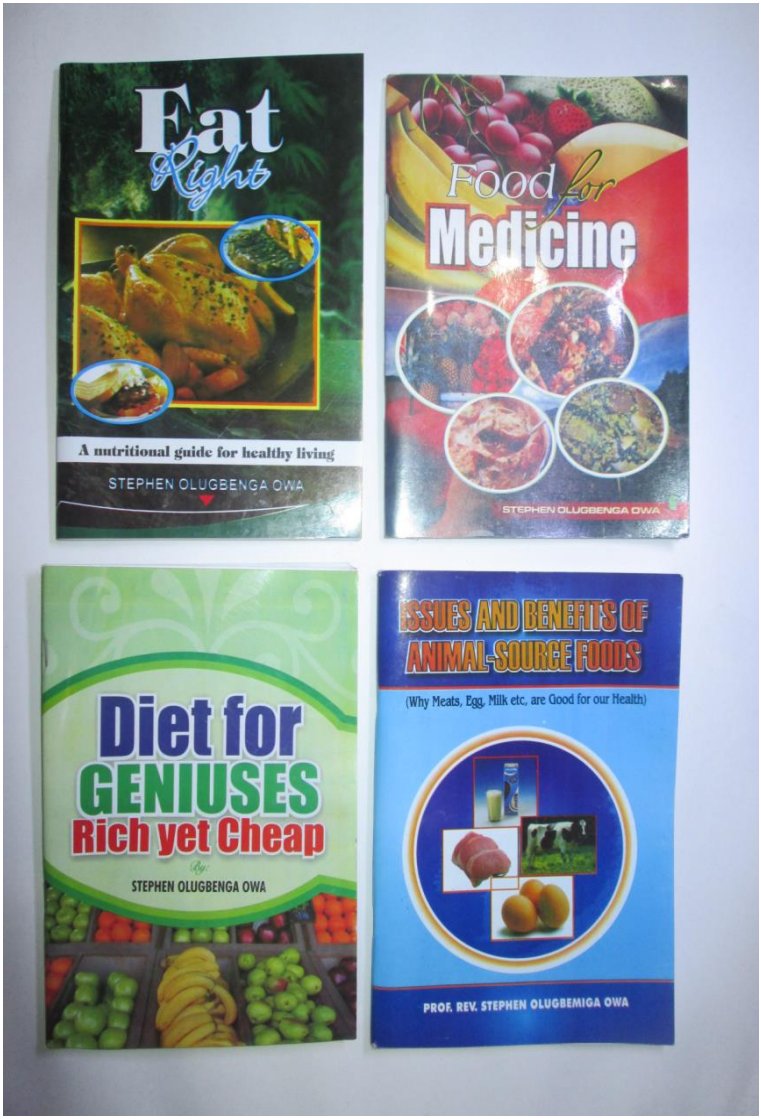
This explains how right foods can turn you or your child from a laggard to a genius. It is worth banking your little money in the mouth of your children, for when you are old you will reap it with happy interest.

h. Foods for Medicine (How to Choose and Prepare Locally Available Foods against . . Diseases)

If you minimize carbohydrate-loaded foods because of our sedentary lifestyle, what else shall we eat? A lot else! This booklet explains excellent local foods and how to prepare them.

i. Issues and Benefits of Animal-source Foods: (Why Meats, Egg, Milk etc are good for our health)

Is it true that animal-source food materials such as fat, egg, milk, meat, etc are dangerous to our health? This book says "No". They actually help our health. More recent publications show that our failing to eat animal-source foods is responsible for many new diseases. Surely God had His reason for recommending animal-source foods for Noah, and for you. This booklet explains all these.


Eat Right
A nutritional guide for healthy living
STEPHEN OLUGBENGA OWA
Food for Medicine
STEPHEN OLUGBENGA OWA
Diet for GENIUSES
Rich yet Cheap
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ISSUES AND BENEFITS OF ANIMAL-SOURCE FOODS
(Why Meats, Egg, Milk etc, are Good for our Health)
PROF. REV. STEPHEN OLUGBEMIGA OWA

23. CONCLUSION

God did not forget to create medications and drugs. They were not to be needed. He has put in place all that we need to be healthy. We should prefer such natural cures to pharmaceuticals. More preferably, we should pursue proper diet, customized for our individuality and lifestyle.

The array of food materials that God has created is sufficient to keep us in top healthy form. His words keep re-echoing that:

His divine power has granted to us all things that pertain to life and godliness, through the knowledge of him who called us to his own glory and excellence, 2Pe 1:3 (RSV)

He has also kindly put earthworms in place to bless our soils, crops, domesticated animals and even our health. It is our responsibility, both individually and corporately to tap into this inexhaustible wealth.

For a world in a hurry to feed the ever teeming population, we are tempted to hurry pass the despicable earthworms, yet if only we bend our mind to select and multiply the diversities, the world could eat more natural (organic) food and experience good health and longevity.

24. DISCLAIMER

All suggestions provided above have worked in practice. However, you may need to be more educated about health issues. Please discuss with your doctor or with a competent naturopath.

25. ACKNOWLEDGEMENT:

I most deeply sing "***All the way my Savior leads me. What have I to ask beside. Can I doubt His tender mercy who through life has been my guide?"*** I appreciate all my teachers and lecturers who by their tough postures kept me on the track. I cannot be thankful enough for the enabling environment created by the Proprietor and lavishly made available by Management of our Landmark University; they have sustained me in a research-mode and mood. I wish I had always had my present set of fellow faculty members of my Department of Biological Sciences; perhaps I should have gone far pass this level. Every time I dream of a research concept they think through with me and patiently assist me. On this Lecture, they critically sharpened my mind. I share the joys of this event with them, but I alone am responsible for my obstinate views expressed in this presentation.

Since my objective includes an attempt to turn every listener today and reader of the resulting publication into his own doctor, who is the Primary Health Care administrator to himself, to control his own health and that of his/her family, I chose to make this Lecture readily understandable to even those who did not read Biology at the Ordinary Level. So I got my foster children to read the script; their response, questions and discussions enabled me to estimate the chances of my communicating with the common man. I am therefore grateful to Miss Taiwo Adeola Adeolu, Mr Akinwande Opeyemi, Mr Folorunsho Joshua, and Miss Alugah Cherish, who, after they graduated this University just last July 2014, decided to stay

around, not only to read this Lecture, but also to assist in the search to transform our common staple foods for medicinal effects. My other children Ibimodi Abosede Julianah, Friday Muyiwa Gideon and Owa Ademipo Pwanobato prepared the materials illustrated in the text. My Chief Laboratory Technologist Mr Ajibade Matthew, and his staff in both our Biochemistry and Microbiology Laboratories, makes me feel that we can investigate anything in our Laboratories. They excite me.

I am very grateful to my earthworm research collaborators, Drs Gabriel Dedeke, Adeyinka Aladesida and Folarin Owagboriaye for keeping my mind sharp.

All photographs in this book were sourced from Google Image, except Owa's books and the Final Year Project Reports.

My Permanent Girl Friend (Wife) has provided the liveliness and warmth needed to bend my mind to the studies and writing that I must do. DV, I pray to have her company for yet another 120 years.

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